

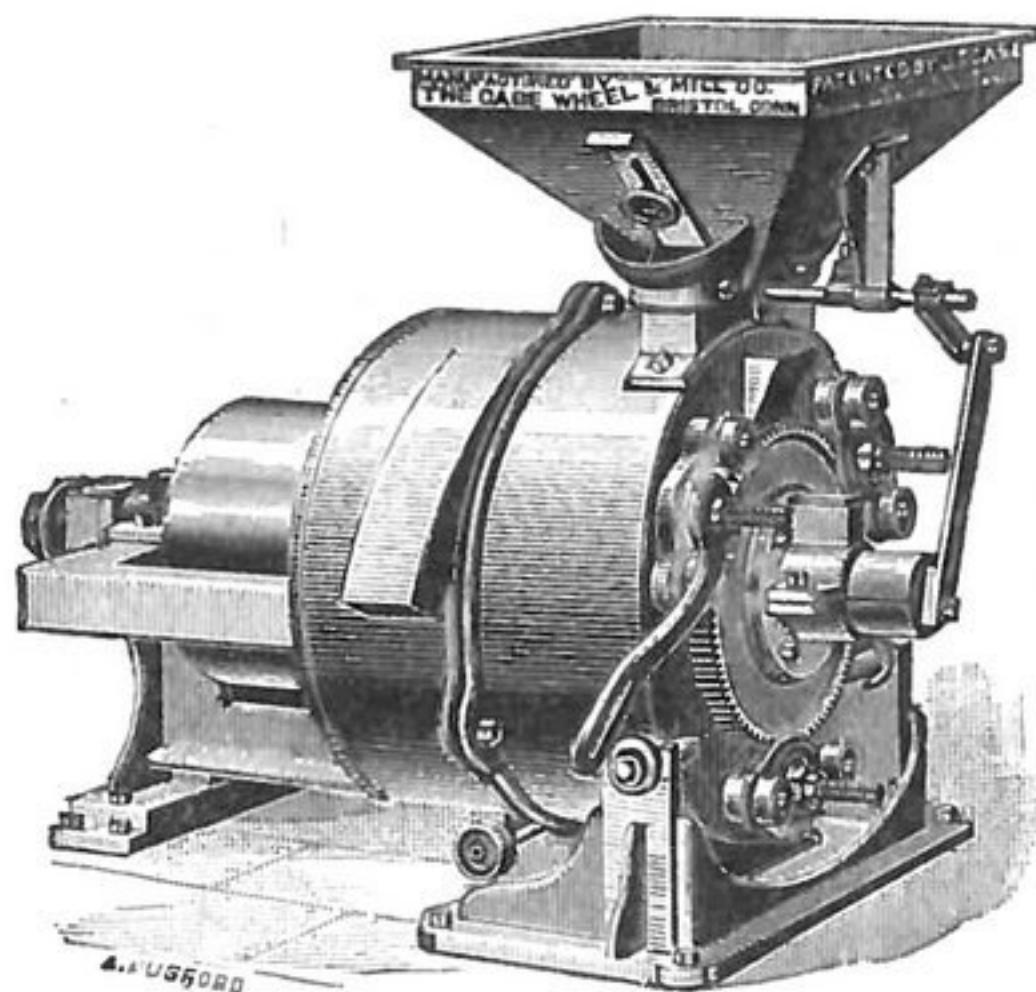
## CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 10.

BUFFALO, N. Y., MAY 6, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS.

### SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

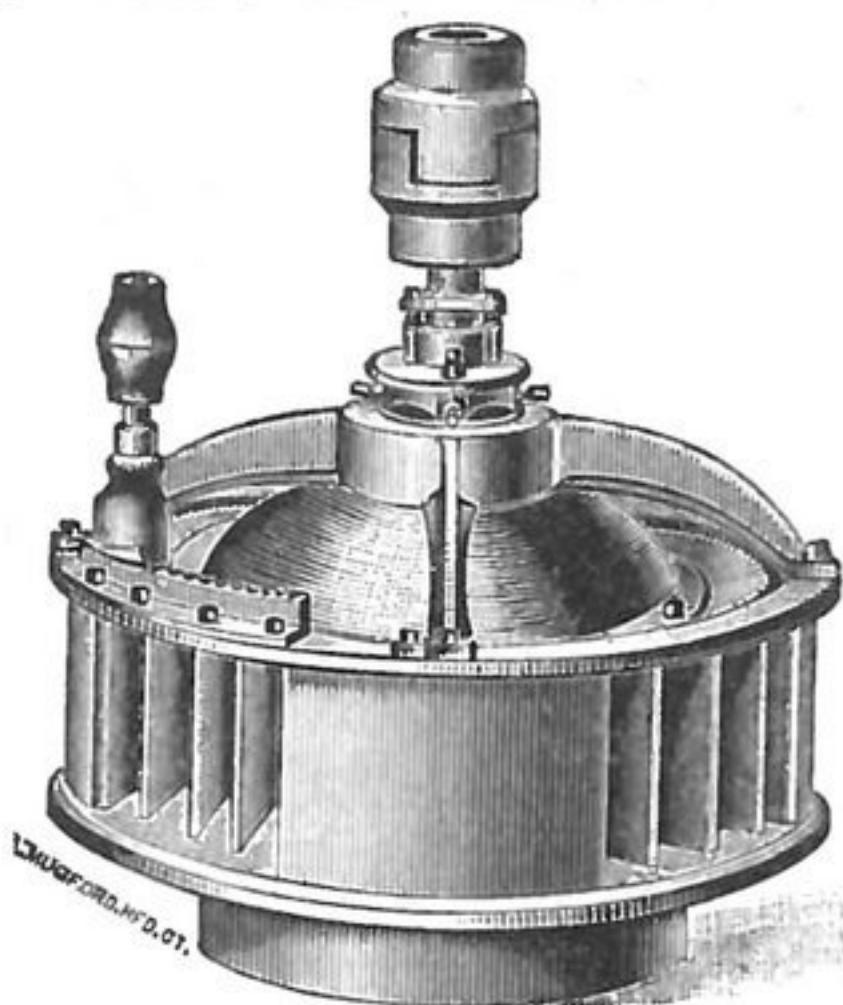
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"Superior to any mill in use."—GEO. WESTON, Bristol, Conn.

"The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.

"We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.

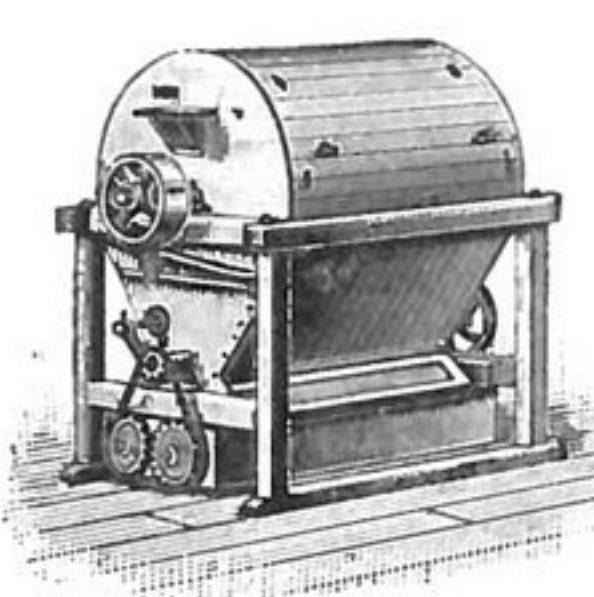
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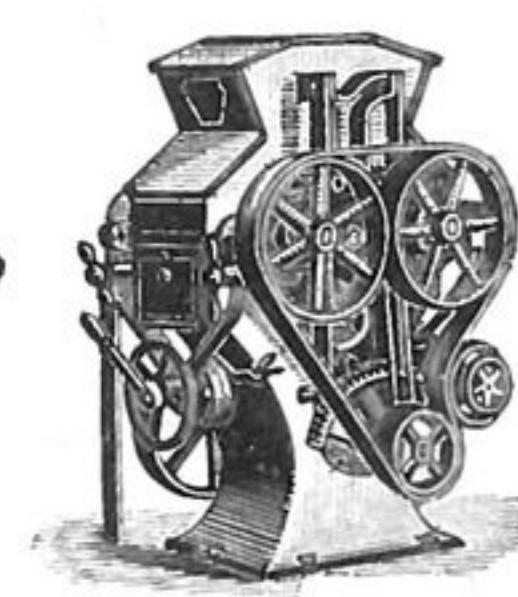
### The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.

**The Case Wheel & Mill Co., Bristol, Conn.**



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Immense Capacity.

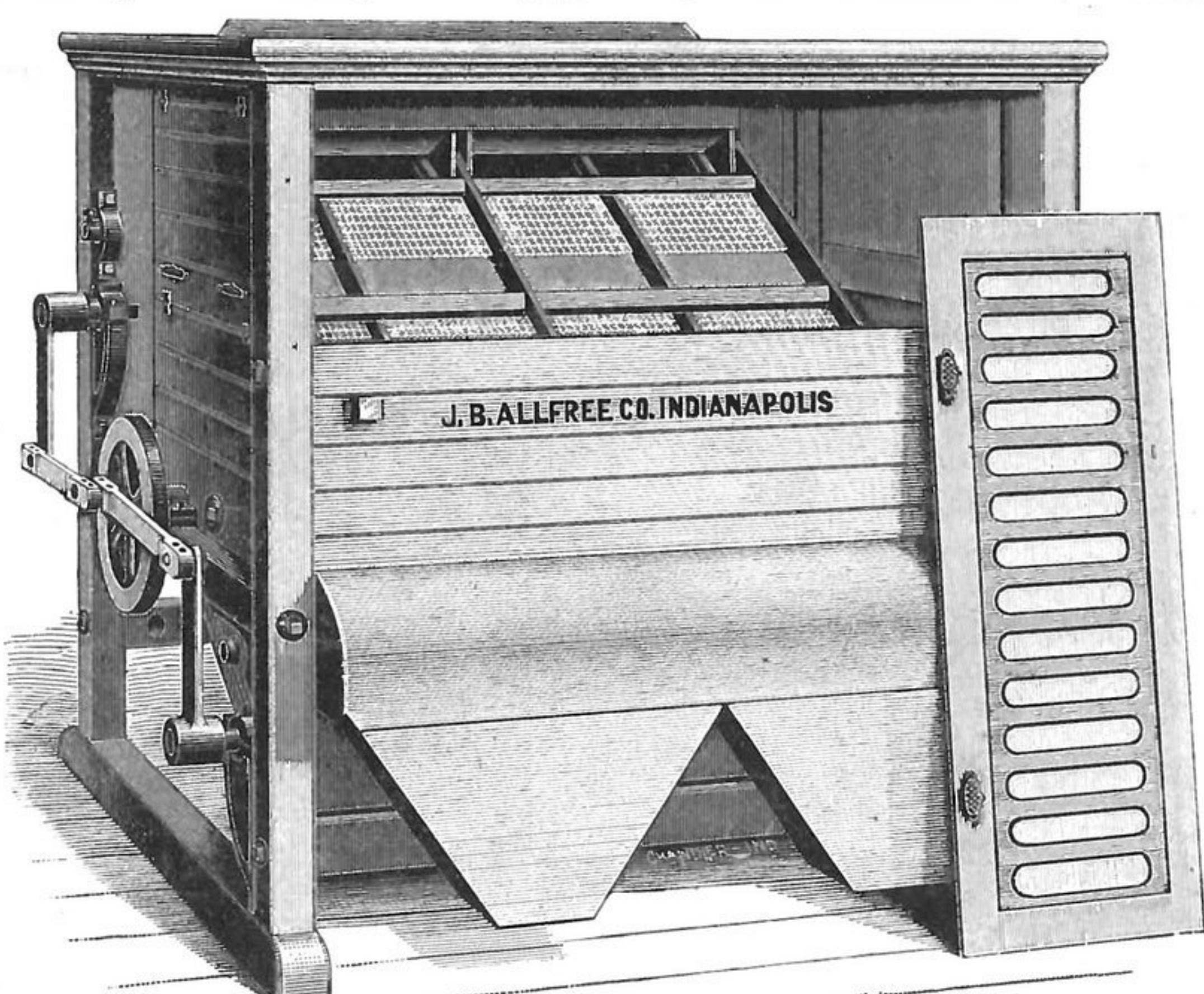
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Power

Required

Merely

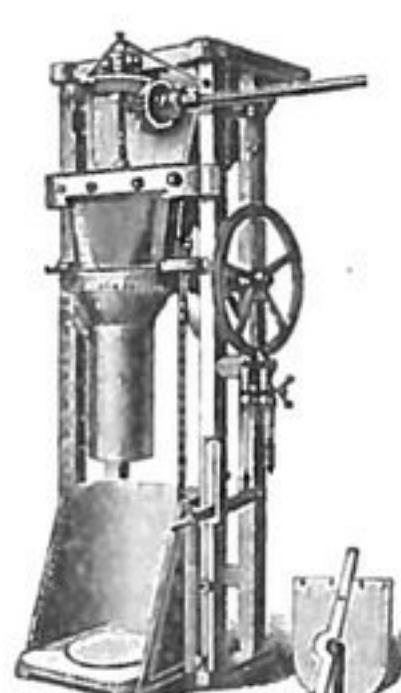
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It will Take Care of  
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Buy our Scalpers and  
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other machines; ours  
is Noiseless.

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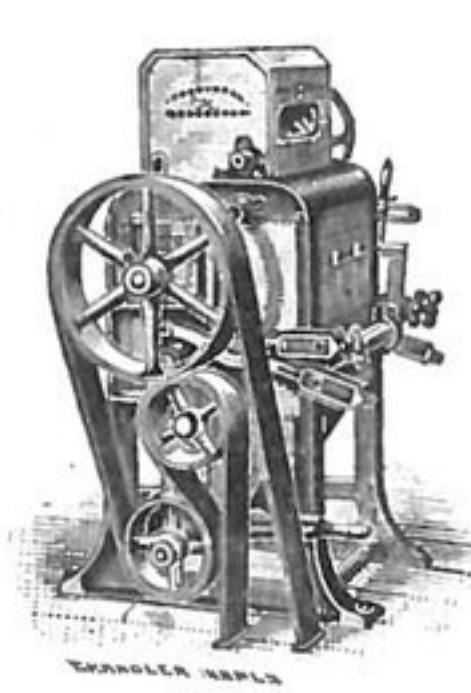
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—ADDRESS FOR PRICES, ETC.—

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Mill Builders and General Mill Furnishers.

**DUFOUR BOLTING CLOTH A SPECIALTY.**



# Some Millers' Opinions

## EXPRESSED THIS YEAR, 1889.

SHREVE, O., Jan. 25, 1889.

THE CASE MFG. CO.

Gentlemen: We called at Bank Jan. 22d and paid our last note, which we believe closes our dealings so far as our contract with you for remodeling our mills is concerned. We want to say that we are entirely satisfied with all our dealings with you. Our mill is all we could expect, and is doing us good work. Extending to you our best wishes, we remain,

Very respectfully yours,

FOLTZ & BRENEMAN.

—O—

WAVERLY, O., JAN. 27, 1889.

THE CASE MFG. CO.

Gentlemen: Although it has been but a few weeks since I have gotten my Waverly Roller Mills started as recently re-furnished with your system of breaks and rolls, yet I have already learned to my satisfaction that your outfit of milling machinery is the best in use to-day. I am now making a grade of flour that is equaled by few and excelled by none, in fact superior to any flour produced in this part of Ohio, and is fast distancing all competitors in the market. I can conscientiously recommend you as General Mill Furnishers.

Yours truly,

JAS. EMMETT.

E. M. NEWTON.

D. B. SMITH.

G. TERRY.

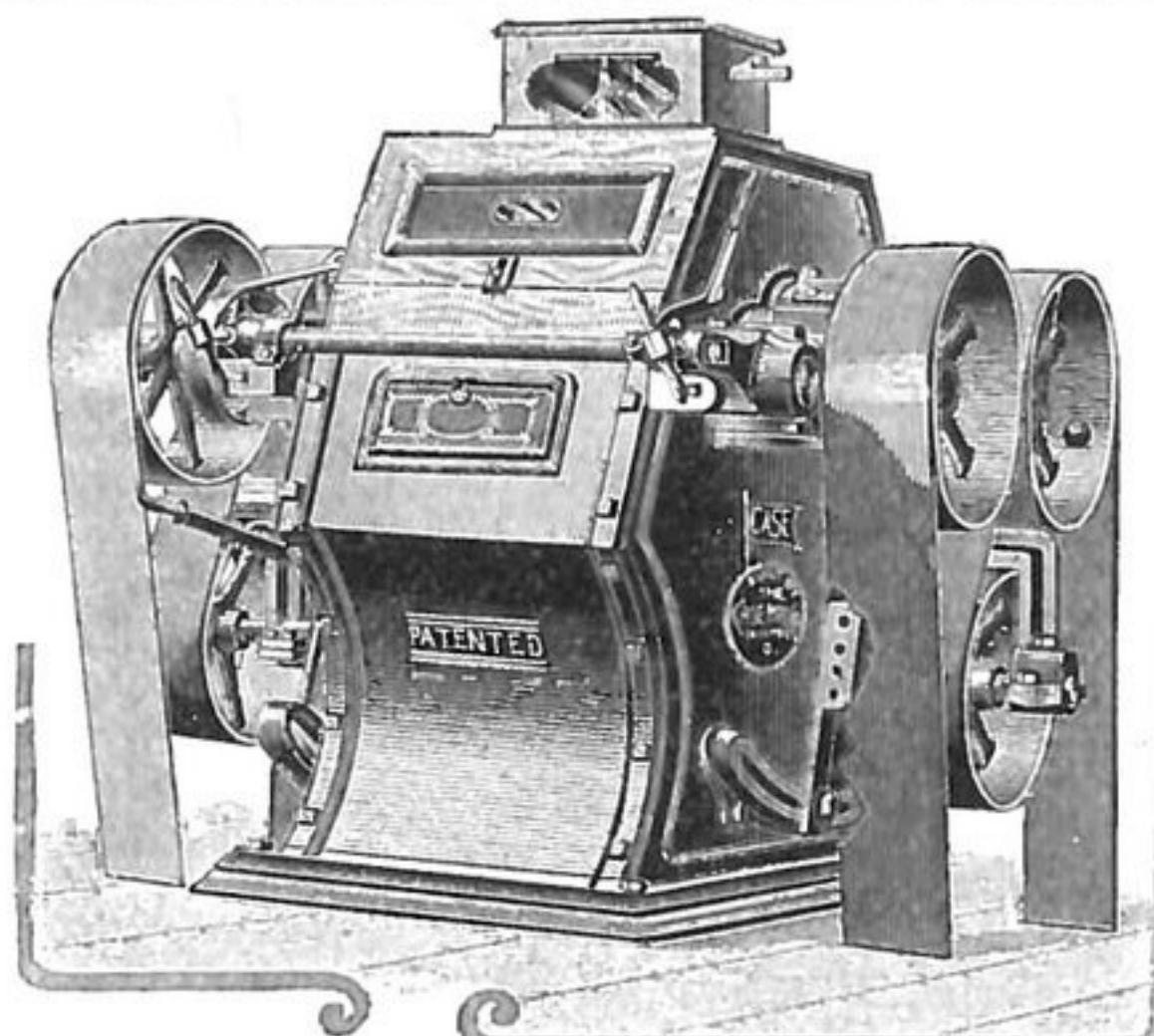
OFFICE OF GUTHRIE MILL CO.,  
GUTHRIE, KY., Feb. 26, 1889.

CASE MFG. CO.

Gentlemen: Yours of the 20th to hand and in answer to inquiry about the five Inter-Elevator Flour Dressers bought of you will say that they are working perfectly satisfactory, and we regard them as being the best bolts we have ever seen, and if we had to build another mill, would use no other. We will take pleasure in showing and recommending them to any one who may be in need of a Flour Dresser. Wishing you much success in the future, we remain,

Yours truly,

GUTHRIE MILL CO.,  
By E. M. Newton.



*The Gem Roll of the World.*

LEONIDAS, MICH., Feb. 4, 1889.

THE CASE MFG. CO.

Gentlemen: In reply to yours of the 31st ult., as to how I liked your machinery, would say I have a 3-break mill using 3 double stands of 6x18 Case rolls, one double stand of 6x15 rolls made by another firm. We started our mill September 1, 1888, and I must say *your rolls are more than you claim for them.* They started from the word "go." Not a single "hot journal," or any thing else to cause any trouble in the least. The other stand has been a continual bother from the start, running hot, and the feed would not work only in bunches, and let me say right here that *they cost me more money than the Case did.* and I mean in the near future to displace it by a *Case.* Your feed is *simply perfect.* It feeds even the full length of the rolls, and the beauty of all is we can stop and start the Case Rolls without touching a single lever; the other stands wants two men to stop and start. I also have a double stand of 9x18 Case rolls for feed. It does good work with half the power a 36-inch buhr took for same amount of work. Should you wish to send any parties here to see my mill at work, I can prove to them all I have said. With very best wishes to the Case Company, I am, very respectfully yours,

GEO. ENGEL,

Successor to Espenhai & Engel.

## WE BUILD NONE BUT FIRST-CLASS MILLS AND WILL GUARANTEE Each Mill We Build to Produce Results Excelled by None *COMPLETE LINE OF MILL SUPPLIES AT LOW PRICES.*

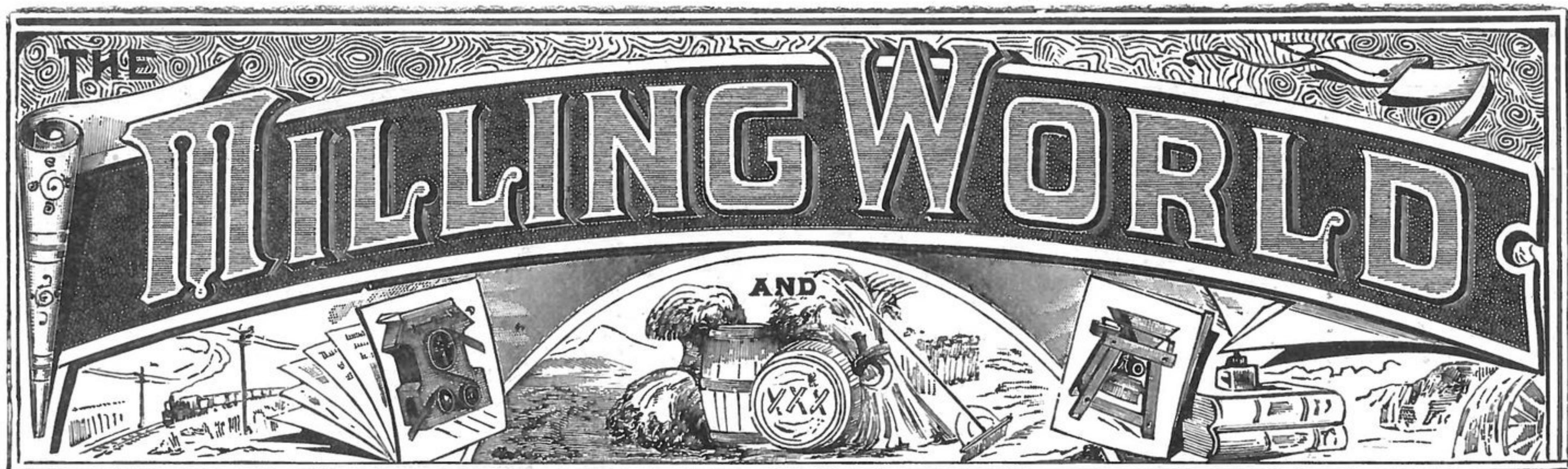
We have the most Complete Plant for Regrinding and Recorragating Rolls, and put in Any Style Cut Desired.

MACHINE WORK OF ALL KINDS DONE PROMPTLY.

—ADDRESS—

# THE CASE MFG. CO., COLUMBUS, O.

PLEASE MENTION "THE MILLING WORLD."



CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 10.

BUFFALO, N. Y., MAY 6, 1889.

\$1.50 PER YEAR.

MANITOBA reports indicate an increase in wheat acreage in that province of about 20 per cent. The disastrous frost of 1888 appears to have encouraged the Manitoban wheat-growers.

COULD Caesar return to the flesh, visit the United States and inspect the milling interest in the northwest, he might feel like writing another "Commentary," in which the first sentence would doubtless be: "All gall is divided into three parts, and Minneapolis possesses all three."

PRELIMINARY guesses at the wheat crop of the United States for 1889 place the yield at from 460,000,000 to 490,000,000 bushels. The winter-wheat acreage is now said to be nearly 4,000,000 acres below that of last year, and there is a large increase in the spring-wheat acreage, so that the total will not vary widely from that of 1888. The hope of a large crop depends chiefly on the average yield, and all the conditions appear to indicate a large average.

IN another column appears an article from our Chicago cotemporary, "Daily Business," in which severe comment is made on a pretentious New York journal. The points made by our Chicago cotemporary are worth notice, especially the point that the New York paper bases its figures on information gathered from 52 out of several thousand places. The New York reports have been widely copied, both in the United States and in Europe, and their inaccuracy has often been exposed by "Daily Business" and by the Cincinnati "Price Current." Our readers will appreciate the points in the article mentioned.

IT is rumored that a certain milling journalist some time ago "loaded up" with wheat at \$1.08 a bushel, or thereabout, acting on the advice of a certain prominent Minneapolis flour-maker, and that he has been "cleaned out" by the subsequent fall in wheat prices. We hope the rumor is not true. Supposing it to be true, however, the question is suggested: If the journalist was "cleaned out" by following the prominent miller's advice, what must have happened to the prominent miller himself, who is said to have followed his own advice and bought heavily? Was he "cleaned out" in the proportion of his investment to his total wealth?

CHEERFULNESS tells in this vale of tears, and Americans generally are able to display their share of that desirable quality. Here, for instance, is "The Shroud," the official organ of the Undertakers' Association, cheerfully and even jubilantly announcing that "the outlook for coffin-makers for 1889 is brighter than ever"! Thus does the American article of cheerfulness surmount all the environments of a solemn and gloomy occupation. We recommend "The Shroud" to the Millers' National Association as an official organ. It would be able to shed over the proceedings of that organization a spirit of light, wit, humor and hilarity, now sadly wanting.

MILLERS and speculators who loaded up with dear wheat last fall and winter, acting on Minneapolis advice, are now wondering why they did so. The prices have sunk steadily

since January, and they are still sinking, and new winter wheat is thought to be only two months distant, according to present conditions of the crop. And new spring wheat promises to come to the hopper a month earlier than it came last year. The acreage is large, in both spring and winter sections, and should the present prospects be realized at harvest, the United States crop ought to turn out close to 500,000,000 bushels. In that event, all the old wheat on hand will represent every thing but gold, and the American mills will once more be in a position to defy Russian, Indian or any other competition in supplying fine and cheap flour to the importing countries of Europe. Generally a large crop in this country is a crop that is fine in quality, and with abundant superior wheat at low prices the American millers will reverse the figures of the past year in the flour exporting trade.

DAILY newspapers may generally be depended upon to misrepresent whenever they venture into special lines. Here is a specimen misrepresentation from the London, England, "Daily Telegraph" on the Indian wheat question: "Lord Cross has convened a meeting of corn agents and dealers in Eastern cereals at the India office, May 8. The object of the meeting is to discuss, among other things, the impurities which interfere with the sale and commercial popularity of Indian wheat. This wheat is by nature a hard, strong, bright sort, and a great favorite with millers, but the native methods of threshing and winnowing fill it with all sorts of substances not good for food. A fortunate corn broker, for instance, wears at this moment a diamond ring which he lately took out of a sample, but in general the foreign ingredients consist rather of dead mice and rats, pieces of rock, camel and sheep refuse, and other extraneous matter, from which it would be desirable to have the consignments freed." If we are to believe the English millers and bakers, the Indian wheat is not "by nature a hard, strong, bright sort," at all. Nor, by the same authority, is it "a great favorite with millers." There may be diamond rings scattered promiscuously through the Indian wheat, as it is one of the favorite dissipations of the Indian ryots, toiling for the magnificent remuneration of 5 cents a day, to salt their wheat with superfluous diamonds and other costlies. There is nothing the average Indian ryot so delights in as mixing a peck of wheat, a peck of rock, a peck of sheep and camel refuse and a flavoring mixture of dead rats and mice together, sifting in some straw, sticks, awns, hair, sand, cobs, roots and any other handy dirt or nastiness, dropping from his diamonded fingers a few Kohinoors and selling the medley to his English customers at 50 or 60 cents a bushel. It is little playfulnesses of that ethereal sort that make life tolerable to the Indian ryots. When the festive English reporter, who probably could, by earnest application and laborious effort, distinguish between wheat grains and clover seed, informs the world that the Indian wheat is bright, strong, hard and a great favorite with millers, while eminent British scientists and prominent British bakers and millers declare that it is soft, dirty, weak, thin, ill-flavored and difficult to grind, the world is likely to go against the festive reporter.

**COMPOUND** Condensing or Non-Condensing.  
16 SIZES, 5 to 500 H. P.  
Not yet equaled by any form of Engine for  
**HIGH FUEL DUTY AND SIMPLICITY.**

**STANDARD** 13 Sizes in Stock.  
5 to 250 H. P.  
3000 in use in all parts of the Civilized World.

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An Automatic Engine cheaper than a Slide Valve.  
WELL BUILT. ECONOMICAL. RELIABLE.  
Over 300 Sold the First Year.  
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**ENGINES**  
The Westinghouse Machine Co.  
PITTSBURGH, PA. U. S. A.

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## Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

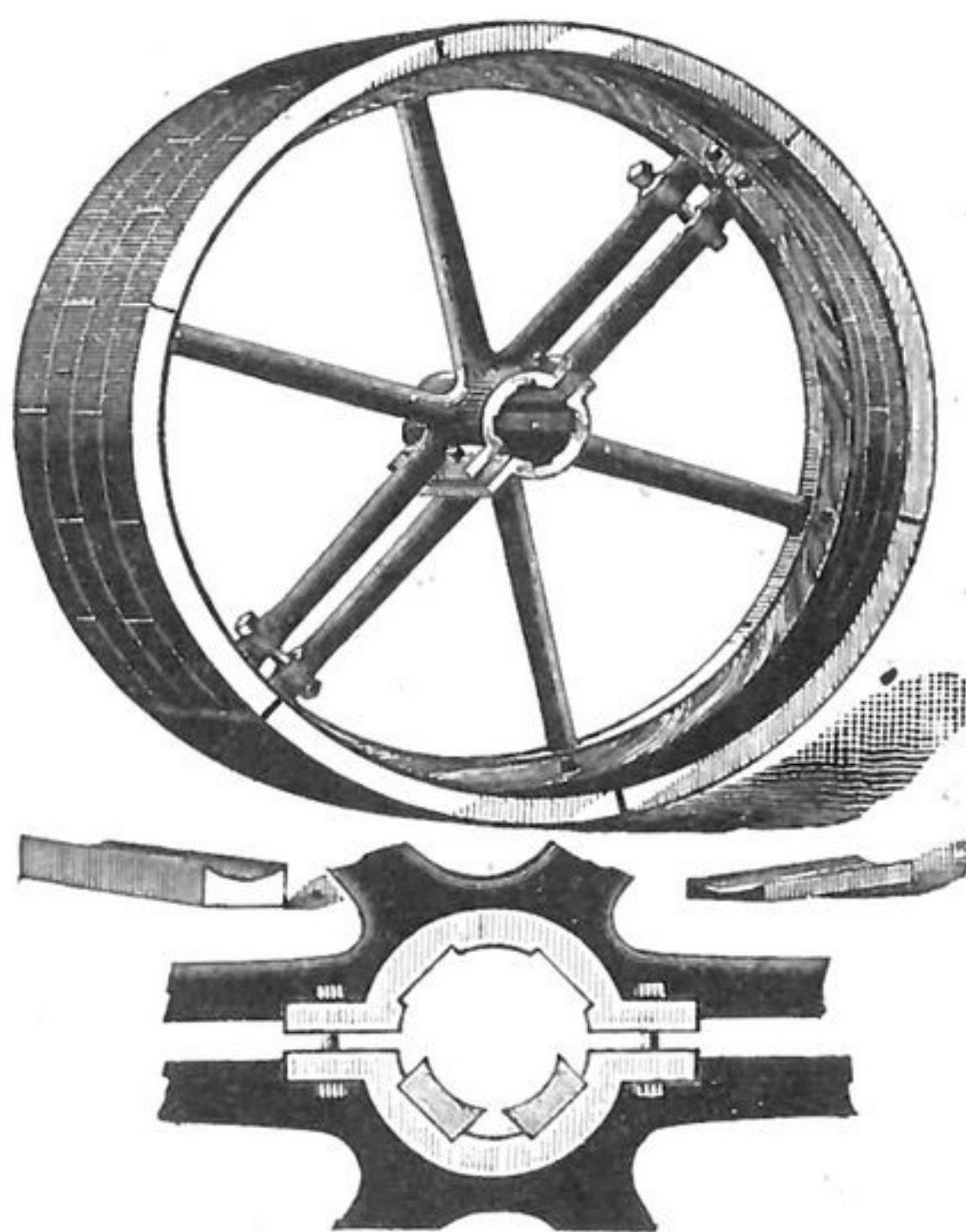
*We have a large plant to Re-grind and Re-Corrugate Rolls.*

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

# Dawson Roll Works, Harrisburg, Pa.



**BIRD & CRANE MFG. CO., KALAMAZOO, MICH.**

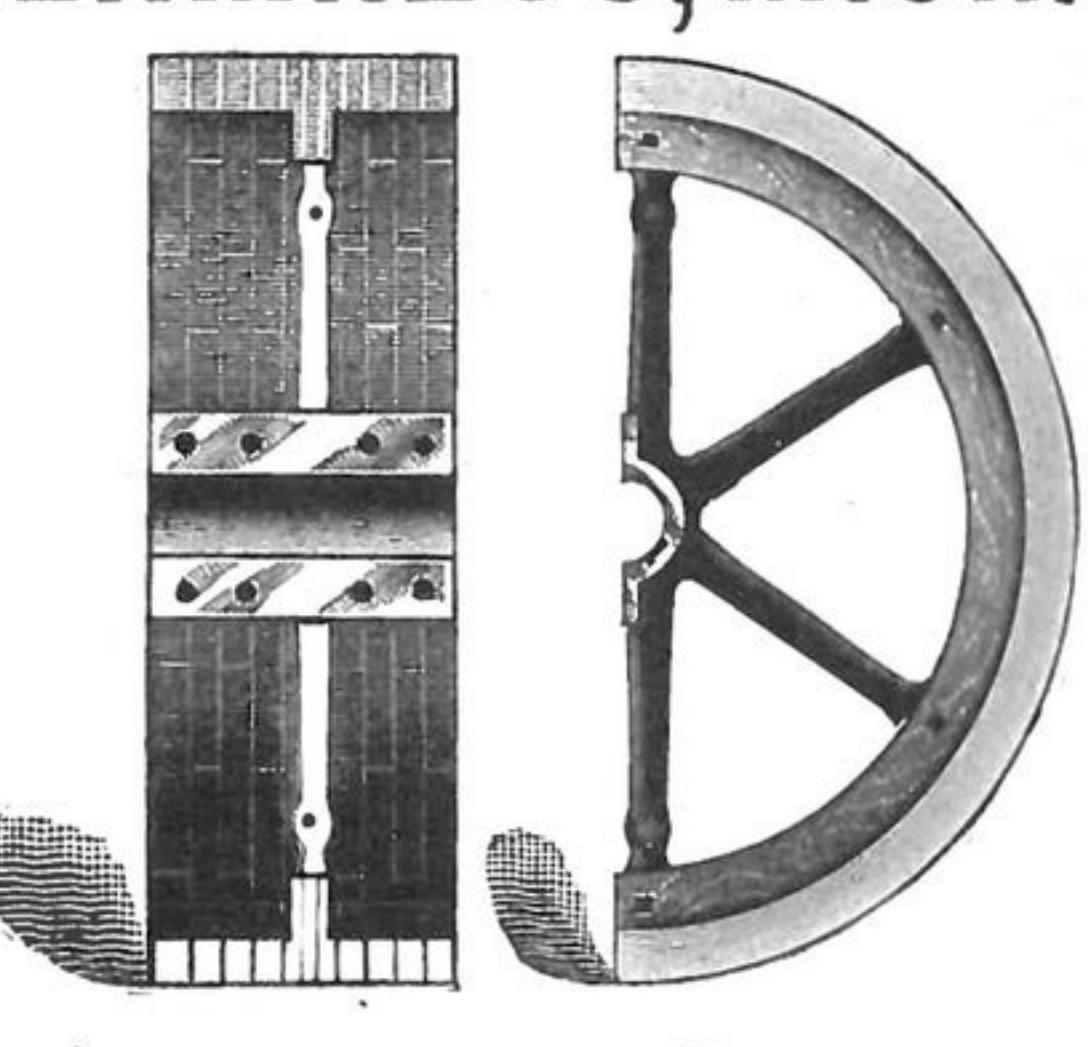
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## Wood Split Pulleys

*WOOD RIM WITH IRON ARMS.*

### The Best Pulley on Earth!

Is very easily and quickly adjusted to Shaft. Has Patent Iron Bushings Interchangeable, to Fit Different Diameters of Shafts. Has FOUR or SIX Bearings on Shaft. This fastening never slips. Every Pulley strongly built and perfectly balanced.



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# THE MILLING WORLD

AND  
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,  
Over Bank of Attica.  
MCFAUL & NOLAN, - - - PROPRIETORS.  
THOMAS MC FAUL. JAMES NOLAN.

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Rates for ordinary advertising made known on application.

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Orders for new advertisements should reach this office on Friday morning, to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

#### EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trades.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

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Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

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Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

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A reliable Roller Miller wants work. Can make one-third more buckwheat flour than average millers, conditions the same. Granulated meal, etc. H. N. Z., 228 James street, Buffalo, N. Y. 710

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#### MILL FOR SALE.

Flour mill; water power; good location; on easy terms. For information address, THOS. BRODERICK, Byron, Olmsted County, Minn. 611

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Grist-Mill and Woolen Factory. Also large two-story frame building. Very convenient for woodenware works. Good water power and shipping point, on line of three railroads. Apply to M. D. OLNEY, Irvine, Warren county, Pa. 811

#### FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

FLENNIKEN TURBINE CO.  
Dnubue, Iowa

8tf

#### MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.

One 20-Inch Vertical Portable Mill, French Buhr Stone, hung on horizontal shaft; capacity 25 to 40 bushels per hour; new, best make.

One 14-Inch Vertical Feed Mill; best make, new, a bargain.

One No. 6 Dustless Separator; new, a bargain.

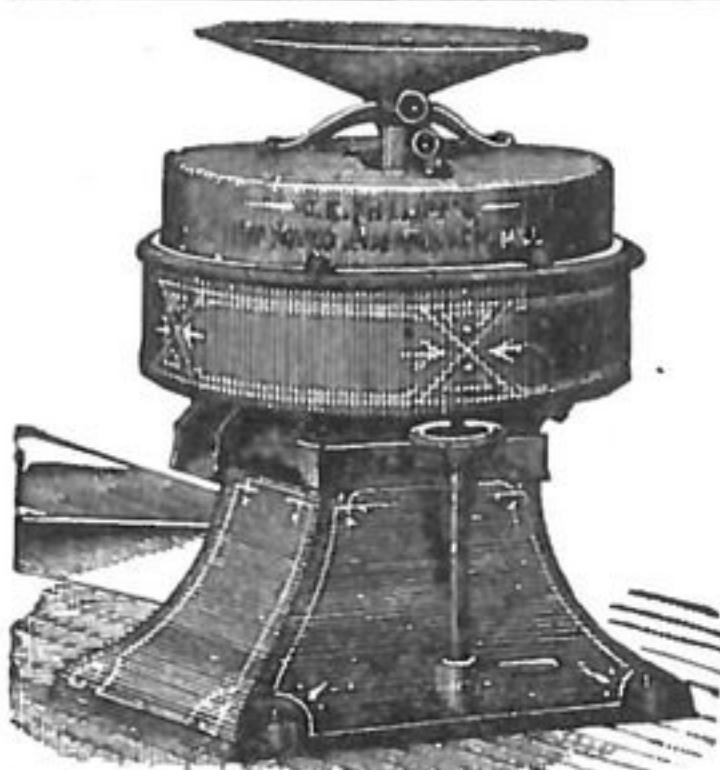
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.

Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.

Two No. 1 Corn Shellers. New.

One No. 2 Purifier. New. Best make. A bargain.

For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf



If you are desirous of obtaining the best Mill or Cob Crusher, send for our catalogue and be convinced that our's fill the bill. Can not fail to please you. They are guaranteed to prove as represented.

C. C. PHILLIPS,

OFFICE, 20 SOUTH BROAD STREET,

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## NEVER-FAILING WATER-POWER FOR SALE OR TO LET.

Situated at the junction of two rivers, 95 miles from New York City, on the West Shore Railroad. Mill site against track. A NATURAL ROCK DAM with from one hundred to one thousand horse power. Railroad siding on premises. Station, post and telegraph offices in sight. Factory employees to be had at low wages. Further particulars given by addressing. 411

HOWARD FINGER, - - SAUGERTIES, N. Y.

#### FOR SALE.

One half or whole, or to rent, a first-class 4-run mill; stone building; never failing water power; good custom and retail trade Address, N. R. SHEPARD, Marcellus, Onondaga county, N. Y. 11

ACCORDING to a Vancouver paper, the shipments of Manitoba flour have almost absolutely ceased. Most of the flour handled at that port comes from the United States. That statement may be taken as further proof that the Manitoba wheat crop of 1888 was a very small one.

NOTWITHSTANDING all the talk about short spring-wheat supplies, inferior grain, glutted markets, ruinously low prices and general discouragement on every side in the milling trade, Minneapolis continues to turn out over 100,000 barrels of flour a week. There must be some altitudinous prevarication somewhere by some interested individuals.

SOUTHERN Russian grain-dealers are preparing to build, with state aid, large elevators on the Black Sea, in which to store their stocks of wheat. They will make an effort to send out their wheat in better condition in the future than in the past, and they are importing cleaning-machines and other grain-handling appliances from the United States. Their intention is to hold, if possible, the advantage they have gained in the European markets by two consecutive abundant harvests and by the short American crop of 1888.

How would it answer to transport the Millers' National Association of the United States to Paris for a convention? It wouldn't cost much. Several first-class tickets would accommodate all the living and moving elements of the association. One difficulty or danger lies in the way. The whole demnition association might get lost in Paris, and what would our millers do then, Poor Things? The United States without a Millers' National Association would make life not worth living to the Yankee flour-maker. Guess they would better remain at home!

ACCORDING to announcement, the annual convention of the National Association of British and Irish Millers for 1889 will be held in the beautiful city, Paris, France, in August next. The French National Millers' Association will hold its convention at the same time, and these two influential organizations will become well acquainted. What a frolic the British and French dusties will have, with the whole magnificent Exposition, the majestic Eiffel Tower and the beautiful city, Paris, as concomitants to their convention! We almost wish we were British or French millers for the time being.

LATE Indian reports indicate a short crop of wheat. The quality is said to be up to the average, which is not saying much for the quality. It is safe to predict that the quality will be found very far below the average, because the conditions that bring about short yields generally produce deficient quality in the grain. British millers and grain-dealers freely admit that the Indian crop of 1889 will give considerably less for export than the crop of 1888. Russian winter wheat is also admitted to have been seriously shortened by unfavorable winter conditions, and in general the Asiatic and European supplies promise to fall below those of last year. Meanwhile in the United States all the indications point to a very large crop, and, unless almost impossible improvement is experienced in Europe and Asia and improbable deterioration is experienced in the United States between this date and the end of harvest, the grain and flour situation will once more settle back to the conditions of 1887 and 1886.

## POINTS IN MILLING.

It would be interesting to have a complete list of all the proposed, alleged, invented and patented articles that have from time to time been made, or claimed to be made, from the wheat berry, such as "germea," "cerealea" and scores of other fantastically named mixtures. Millers and bakers have been responsible for some of these curious articles, but most of them, it is probably safe to say, were the work of men who belong to the class commonly called "cranks." Certainly some of these inventors deserve that name. Some readers of THE MILLING WORLD will recall "Germea," which made its appearance several years ago. The inventor of "Germea" recommended it as a breakfast dish. He called attention to the germ, from which he was to make "Germea," boldly claiming that, on account of the large proportion of phosphatic and nitrogenous matters in wheat germ, chemical analysis proved one pound of "Germea" to contain more nourishment than four pounds of the best porter-house steak. The price of a pound of "Germea" was given at five cents, and that of the steak at one dollar, the conclusion drawn by the inventor being that the use of this cereal food would give an equal nutritive result with that of fourfold the amount of meat, at a saving of 90 to 95 per cent.

WHAT a list could be compiled! What an amount of ignorance, folly, insanity and misapplied effort that list would show, with it mixtures of salt and butter, olive oil and lard, linseed oil and other substances with wheaten flour, and its grotesque nomenclature, "wheatena," "maizena," "cerealena," "avatina," "flourena," "germea," "branena," and other quite as idiotic and meaningless names! Properly enough, none of these wonderful applications of the refuse of the wheat berry has ever enriched an inventor. Bran is still bran. Germ is still germ. Dirt is still dirt. Above all, flour is still flour, and no substitute, from wood, young bark, sawdust or clay down to bran, germ or dirt, has been found for it. Bogus or counterfeit flour is waiting for perpetual motion to materialize before it shall take its place on the market as a regular article of commerce.

GRAIN inspection is a branch of the business that directly and greatly concerns the miller. The other day I visited a mill and found the owner in a state of confusion bordering on insanity. He had received two shipments of wheat from two northwestern points, and his confusion was due to the grading of the grain. He had ordered a certain grade, the same grade, from each market. On receiving the grain he found two grades, neither of which was what he had ordered. One was better and the other was poorer than the grade he had ordered. He could understand that a mistake might be made by the shippers, but he could not understand why he should be called on to pay more for the poorer grade than he was asked to pay for the better grade. The inspectors had evidently not inspected at all, or else the one who graded down the better wheat was ignorant, or the one who had graded up the poorer grain was dishonest. At all events, the miller had what he did not want, and he is still studying the problem of who could have mixed those grades up so?

RECENTLY I have continued my inquiries among bakers concerning the alleged great inferiority of the wheat flour from the grain of 1888. The bakers generally do not seem to be aware that there has been any unusual lack in the flour. They say: "O, good flour is good flour this year, and bad flour is bad flour, just like any other year. We can buy bad flour now, and we can always buy such flour." Here and there may be found a baker who says he has had trouble with some batches of bread, but generally, when closely questioned, he is not always willing to charge the trouble directly to the flour. As I have said before in this column, the inferiority of some of the wheat grown in 1888 was of a nature to trouble the flour-maker more than the bread-maker, in other words, that it is more a mechanical than a chemical difficulty. The flour in the wheat was "all right," and the only difficulty was in extracting it from the

berry. The frosted wheat of the northwest was an exception, of course, to this general rule.

I NOTICE that the crop statisticians are reporting that the winter-wheat area in 1889 is about 4,000,000 acres less than in 1888. That report is at least open to doubt. In my trips through the most important winter-wheat states I hear nothing to indicate so large a reduction in acreage. Almost uniformly the millers and dealers reply that the area sown seems to be about the average. Are the bulls at the bottom of that 4,000,000-acre reduction?

OUR friends of the Millers' National Association propose to fight the giant Speculation at their Milwaukee convention in June next. That is right. The prominent millers in the Association could get in some heavy blows at Speculation, but there is no necessity for waiting for the Milwaukee convention to begin the proposed fight. They can begin any day, right at home, in the conduct of their own business. For many millers do speculate, and some of them belong to the Association. Of course, when they refer to Speculation, with a big, big "S," they mean the other fellows in their line who have "got away" with them frequently in recent times. Each speculator is inclined to think that each other speculator is a fraud, a thief, a conscienceless reprobate and an unmitigated scoundrel, which is pretty hard on the other fellow! But all the same, it will be an edifying spectacle to hear the speculators inside the Association scoring the speculators outside the Association. This dull and prosaic world needs a large variety of things to laugh at, and the Milwaukee combat with Speculation promises to be highfalutinly hilarious. Swords for the combatants!

## METHODS OF REPORTING CROP CONDITIONS.

Answering the frequently asked question concerning methods of reporting crop conditions and prospects employed at Washington, Statistician J. H. Dodge of the Agricultural Department has published the following statement:

"Realizing the necessity of unity in methods of crop reporting, I would call attention to the basis of comparison in reporting crop conditions during the summer. The fact that this basis is not the same in every state leads to confusion in the public mind and in the estimates of correspondents, which is doubtless the cause of much of the discrepancy in the results that appear in crop reports. This department has always made the unit of measure in condition, 100, to mean that the crop has a normal growth and vitality, unaffected by disasters or injuries from any cause. All experience has shown this to be the only safe or practical basis. It means a full and uninjured stand, with medium growth. This has been generally accepted throughout the world. It is easy therefore to represent any deficiency or loss by subtracting a percentage representing it from 100. But in some quarters a vicious practice has arisen, which makes 100 mean the average of the five preceding actual crops. That is, correspondents are not asked to estimate the full amount of loss or disability of the season's crop, but to divide it and give only a part of it, all that part which is below the average loss of that period. The compound calculation of adding the reported discounts of each of the five years, dividing the sum to get an average, and then taking such status as a basis and adding to or subtracting from it, is practically impossible to the average mind, and illogical, awkward and confusing. Practically it is not done, when instructions require it. It is complicated, difficult, impracticable. So correspondents ignore instructions as a rule and make a normal condition and growth the basis. Otherwise the actual five-crop basis would give a result as often from 10 to 15 per cent. above 100 as below it by similar figures, an outcome which rarely if ever appears, making conclusive proof of its unreliability. The reports of all attempting to use this plan show that some reporters try to use it, while others disregard it, either unconsciously or deliberately. The average result is too high for one basis and too low for the other, and of course erroneous."

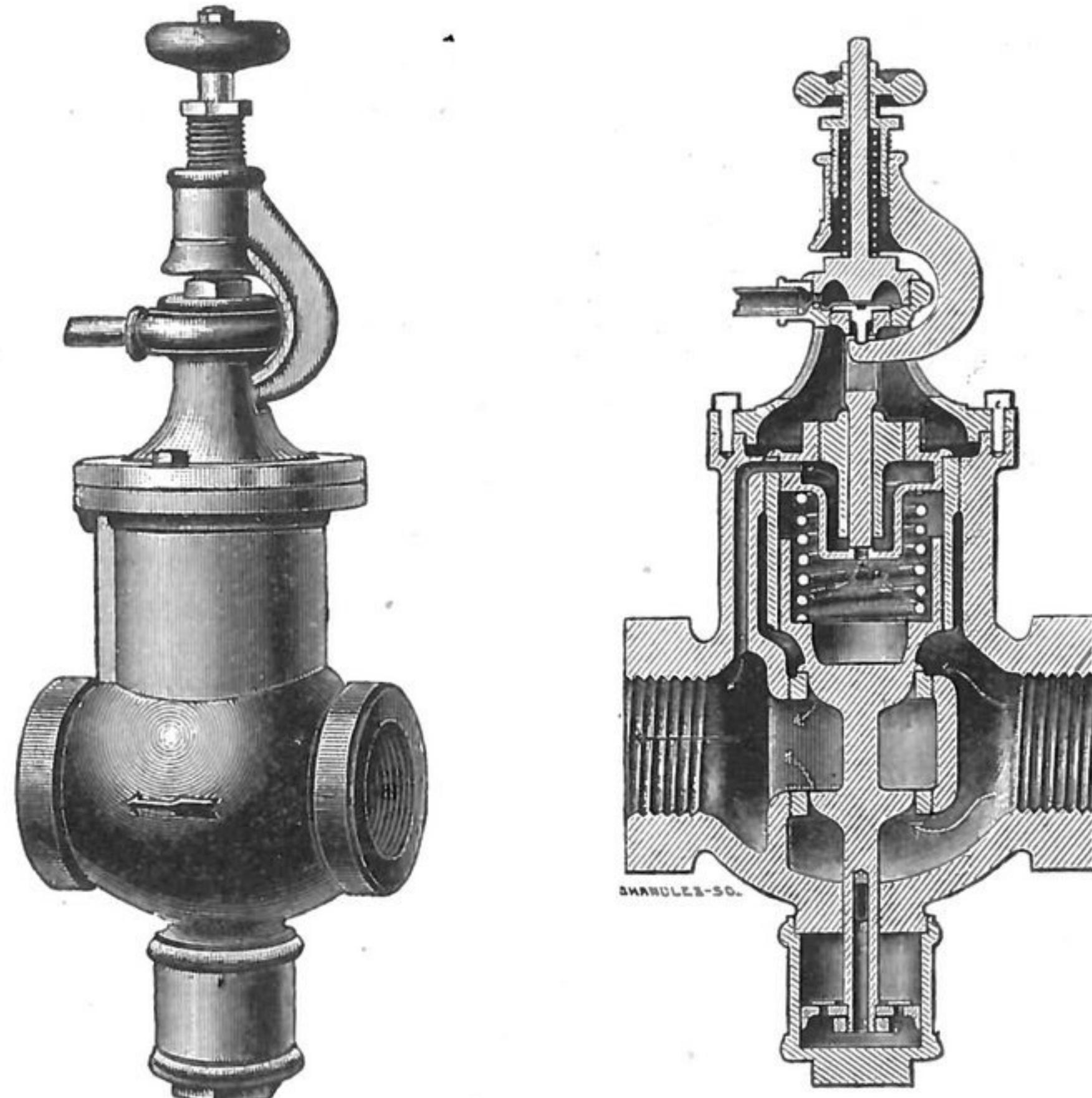
## WHEAT STANDS COLD WELL.

A very curious fact is recorded by Sir George Nares in his account of the Polar expedition, which he conducted on behalf of the British Government in the steamers Alert and Discovery during the years 1875 and 1876. It appears that he found at Polaris Bay a bag of wheat which had been sent thither about 1871 by the Smithsonian Institute, of Wash-

ington, through the American "Polaris" expedition, for the purpose of testing the cold-resisting capacity of this cereal, and he states that the wheat had been exposed to the rigors of at least four Arctic winters and had also lain through three summers. What the climate of Polaris Bay is like will be gathered from Sir George's narrative, in which he records, at "Alert's" winter quarters, on March 4, 1876, that "the mean temperature for the last two days has been 69.6 degrees below zero; yesterday two reliable thermometers registered 73 degrees below zero, the mean being 73.75 degrees below zero, or more than 105 degrees below the freezing-point of fresh water. The mean temperature of the preceding month was recorded as 38 degrees below zero, and during the month of January the mercury in the thermometers was frozen for several days." Nor is this excessive cold surprising when it is remembered that Polaris Bay is situated between the latitudes of 81 degrees and 82 degrees north. But in spite of the intense cold to which it had been exposed, the wheat was far from having been, as a whole, deprived of its germinating properties. A sample of the wheat was taken to Kew, where it was tested by Sir Joseph Hooker, who found that 62 per cent. of the berries still retained sufficient vitality to germinate.

#### A PUMP PRESSURE REGULATOR.

Herewith are two engravings representing an improved pump pressure regulator, manufactured by the Curtis Regulator Company, of Boston, Mass. This well-known company have introduced many devices for controlling pressure of all kinds, and their constantly increasing business



THE CURTIS PUMP PRESSURE REGULATOR.

is a sufficient guarantee of the value of their devices and of the public appreciation. The Curtis pump pressure regulator is an adaptation of their ordinary pressure regulator to the peculiar requirements of a pump pressure regulator, and it is accomplished by removing the phosphor-bronze diaphragm from contact with the steam and placing it in the top of the regulator, extending the secondary valve up to meet it, and connecting the chamber over the diaphragm to the pipe or tank in which the water-pressure is to be controlled, so that any change of pressure in the pipe or tank operates on the diaphragm and closes or opens the valve placed in the steam-pipe of the pump. In order that the valve shall have a gradual, smooth opening, a dash-pot is placed at the bottom of the regulator, the piston of which forms a part of the main valve and effectually prevents any sudden opening of the valve, which might have an injurious effect on the pump, without in any way interfering with the sensitiveness of the regulator. The valve is placed in the steam-pipe, near the pump, and the union at the top is connected to the pipe or tank in which it is desired to maintain a uniform water-pressure. Steam is let on to the pump, and the water-pressure is regulated by turning down (or in

on the top handle of the regulator, until the desired water-pressure is obtained. When once set at a given pressure, the pump will maintain that pressure until the handle is changed, whether much, little or no water is used. Turning down on the handle will set the regulator at a higher pressure, and turning back will set it at a lower pressure. These regulators are in general use on hydraulic elevators, air-compressors, sprinkling systems, hydraulic presses, straw works, paper factories, oil-works, breweries, public buildings and water-works, and they will perfectly control pressure on pumps for any purposes, including vacuum-pumps for steamships, sugar-works and ice-machines. They refer to the Worthington Pumping Engine Co., both of this country and London, the Deane Pump Co., the Davidson Pump Co., the Barr Pumping Engine Co., and many others who are using these goods.

#### SUPREME COURT PATENT DECISIONS.

The rule is well settled that the production of Letters Patent for a Design establishes a *prima facie* right in the patentee which can only be defeated by proofs which are of convincing force.

The validity of a patent for a design does not depend upon the exercise of the "inventive faculty of the mind" in the sense in which that expression is used in connection with inventions which relate strictly to the useful arts.

The policy which protects a Design is akin to that which protects the works of an artist by copyright. If the Design produce a different impression upon the eye, even though it be simple, and does not show wide departure from other designs, its use will be protected.

#### DOCTORING IN THE DARK.

No sensible surgeon will attempt the performance of an operation involving human life in a room secluded from the proper amount of light. A practitioner will not attempt the diagnosis of a complicated disease unless he can see the sufferer and make an examination upon which to base his opinion relative to the treatment necessary to bring about restoration of health.

Notwithstanding the impropriety of such action there seems to be a great deal of doctoring done in the dark.

It needs no illustration to demonstrate that gross ignorance has caused many fatal mistakes in the treatment of diseases by those who profess to be learned in the art of healing.

In many diseases several organs are more or less implicated and what seems a primary ailment may be one quite remote. For instance, a severe headache may have its origin in a disturbed stomach. On the other hand, sickness at the stomach may be caused by a blow on the head. The seat of typhoid fever is in the upper part of the bowels, but most of its worst systems are often in the brain.

Symptoms of disease as well as diseases themselves are oftentimes followers or concomitants of some unsuspected organic disease and this is peculiarly true of lungs, liver, brain and heart diseases in general, for it is now known that they are the result of kidney disease, which shows its presence in some such indirect manner.

Several years ago a gentleman became convinced of the truth of this and through his efforts the world has been warned of kidney disease and as a result of continued effort a specific known as Warner's Safe Cure was discovered, the general use of which has shown it to be of inestimable benefit in all cases where kidney treatment is desirable or necessary.

When consumption is threatened see to it that the condition of the kidneys is immediately inquired into and if they are found diseased, cure them by an immediate use of Warner's Safe Cure and the symptoms of lung decay will rapidly disappear.

There are too many instances already recorded of the terrible results produced by a lack of knowledge concerning the cause of disease, and human life is of too much importance to be foolishly sacrificed to bigotry or ignorance.

## MECHANICAL ARRANGEMENT OF MILLS.

One of the ancient evils connected with machinery for flour-mills is the tendency, based on ideas borrowed from very old English mechanical engineers, to make the general line of machinery over heavy and strong. Some will doubtless maintain that that is a good fault, if such a way of expressing it may be allowed; and possibly it is when not carried to excess. But there is such a thing as getting beyond all reason in that direction, and some of the older men in the business are very liable to drift that way, unless held in check by men governed by the results of more modern experience. If it were simply a question of first cost and handling that had to be considered, it perhaps would not matter so much, but the burden, as a rule, to the owners of the mill does not end there; in fact it scarcely commences there. It is not only possible but very probable that one mill will require 20 to 30 pounds more coal to the barrel of flour than will another, owing entirely to the extra weight, quantity and bad arrangement of machinery. If we call the difference in coal 20 pounds to the barrel, and that difference can be found in many instances, and the mill be 100 barrels in capacity, the extra coal will amount to one ton per day, and in a full year's run to about three hundred tons, which in some localities costs the miller \$4.00 per ton or \$1,200 a year. If the mill has a capacity of 500 barrels the extra fuel will cost \$6,000 per annum.

These may be regarded as extreme views in relation to the difference in the cost of fuel, but they serve the purpose of calling the attention of the reader to the fact that there is an important item to consider, and interested persons should pause and consider the matter well before permitting themselves to be placed in that position by incompetent, careless or prejudiced mechanical engineers, wedded to old ideas about machinery and its arrangement. We will take the item of shafting alone. It is well known by all mechanics, even without a technical education, that while increasing slowly in diameter it increases very rapidly in weight, also in strength or ability to perform work. The rapidly increasing extra weight, owing to a small increase of diameter, which is very probably not needed, adds materially to the power required to drive the shaft, which means a greater consumption of fuel. Not only that; increasing the diameter of a shaft, even without increasing the weight, by having it hollow or otherwise, adds greatly, on account of increased friction, to the power required to drive it; so that largely increasing the diameter of solid shafting increases the power required to drive it many-fold by the increase of friction due to extra weight and the increase in friction independent of weight.

Then, again, if we increase the size of the shafting above what is required and unnecessarily multiply the number of pieces of shafting to be used in a mill, which is often done, the matter is greatly aggravated. All these things should be sharply looked after by parties who have to pay for the machinery and pay for operating it afterwards. As an instance to illustrate the position in relation to shafting, we will take a 100-barrel mill and start out by saying that no more than three pieces or three lines of shafting are required in such a mill, and no line more than three inches in diameter. Now let the reader examine the first mill of that capacity he sees and make a comparison. He will find it interesting, as a rule, especially if the mill has been in operation a number of years. He will be liable to find a great many pieces, short and long lines of shafting, often running in many different directions, very much at variance with "the first law of nature" and the "eternal fitness of things." Then, too, in the lower part of the mill, particularly, he is liable to find the shafting ponderous and heavy, as though intended to propel huge masses of machinery, instead of a few small roller-machines and mayhap some other light machines. All these numerous shafts, light and heavy, require power to drive them. The more of them there are and the heavier they are the more power is required. That state of affairs in reference to shafting is what we are liable to find in not only one or a few mills, but in a great many now in operation. I think by far the greater number will make such a

showing, resulting in great waste of power and consequent unnecessary increase in the cost of making flour.

To be properly fitted out in shafting the basement should be supplied with one piece or line of shafting only; and that for a 100-barrel mill need not exceed three inches in diameter. It should extend nearly the whole length of the building, as a matter of convenience for future requirements, as there may be rolls for making corn-meal and for other purposes added by and by. In fact, there is scarcely one case in ten where mills of 100 barrels or less in capacity are not sooner or later provided with machinery for making corn-meal and buckwheat or rye flour; and with the shafting already in the mill to drive with, the task of adding machinery for the purposes named becomes very simple. It is true, if the expectations for making such additions are very remote, it would be better to have all lines of shafting no longer than actually needed, for reasons already given. But preparation should be made for coupling onto the shaft with the least trouble, if it should become necessary to do so. The basement line of shafting may be coupled directly to the engine-shaft or driven by belt from a pulley on the engine-shaft, depending altogether on circumstances and conveniences. If the engine be of the slow-moving kind, the shaft will have to be driven by belt. If a quick-motion engine, unless too quick, is used, it can be connected directly.

The second line of shafting must be placed overhead in the second story of the mill, in a manner most convenient for driving purifiers, centrifugal reels, cleaning-machines and others, which will be located on the floors both above and below the shaft. This line should extend the full length of the mill, as the machines it will drive, taken on both floors, will be distributed pretty well along its whole length. The third line of shafting will go well up in the top of the building for the purpose of carrying the elevators and for driving some slow-running machines, such as scalpers. The two upper lines of shafting may be driven from the lower line with one continuous belt and one motion, which occasions the introduction of two short carrying-shafts; or the second line may be driven by belt from below, and the third line by chain from the second, thus doing away with carrying-shafts and idler-pulleys. In the foregoing manner the arrangement of the shafting is greatly simplified, which of necessity simplifies the arrangement of all the other machinery. As all have to be driven from those three lines, it is scarcely possible for any millwright very much to complicate the general arrangement of machinery—*R. James Abernathy in "The Mechanical News."*

## MIDDING KNOWN CENTURIES AGO.

Middlings purification is hardly a "modern process." The principle of purification of semolina has been long known in Europe, where it has been practiced with more or less success for a century. "New process" flour similarly treated was known to the ancients. Pliny mentions in Book XVIII the different kinds of flour made by the people of his time. The Romans were far advanced in the art of flour-making and put the meal through several siftings, and the bread was generally one-third heavier than the meal, or 20 pounds of flour would make 30 pounds of bread. The "mouture économique," or manner of grinding in France, has long been known on the continent of Europe, particularly in Germany. The art is the same as that used by the Romans and substantially the same as that used at present in this country, namely, high grinding, putting the meal through the mill several times, and then purifying it from the bran, fuzz and other impurities.

In the early part of the present century high milling was introduced in the neighborhood of Vienna. The wheat was cracked fine, and the coarser parts were separated by agitating in boxes having sieves across the bottom. The bran, being the lightest, worked to the surface and was occasionally separated by means of a small shovel, leaving at the bottom coarser fragments consisting of gluten with more or less of the adhering outer coat of the bran. This material was assorted by means of sieves operated by hand and constituted the article of commerce known as "Vienna grits."

The demand for these grits suggested the idea of coarser grinding with the stones further apart, and thus was the first step taken in the art of high milling. The recognized pioneer in invention in this direction was Ignaz Paur, a miller in Lower Austria. Paur experimented in regrinding the separated grits and obtained a flour called from that time forward "Auszug," or extract flour, and so great became the demand for this flour that the utmost effort to produce by hand-sifting the needed grits was inadequate to meet it. Various experiments were made in the construction of a machine to take the place of the hand-sifting, and finally, in connection with a cabinet-maker named Winter, he made the first cleaning or purifying machines, attached to the bolt, and at the same time the double grits cleaner, and the principle of separating the grits from the bran by means of a current of air introduced through an opening in the machine is maintained to this day, as being the only practical and philosophical method, and our present purifiers vary but little from Paur's.

In Paur's machine a current of air is directed against a thin stream of falling grits mixed with bran. All of the particles are blown out of the perpendicular, the lightest most. The bran, being the lightest and presenting the largest amount of surface, is driven furthest; and the grits, being the heaviest and presenting a less extent of surface relative to the amount of material, fall nearest to the perpendicular, and between these is an intermediate portion. Another device, differing somewhat from Paur's, is in use at Budapest. It accomplishes the same purpose as Paur's machine in separating the minute bran-scales from the grits of equal size, by causing a broad stream of air, either by blast or suction, to pass through a slightly inclined plane sieve of meshes sufficiently large for both the bran and grits to pass through. The force of the blast is sufficiently gentle to permit the grits to drop, while the particles of bran are kept afloat to be discharged at the lower margin of the sieve. The sieve is sometimes disposed around a cylinder, and the action promoted by a brush, acting upon the surface of the sieve, in connection with the blast or suction. Of this class several of the most ingenious constructions have been recently invented in Austria.

#### MILLING PATENTS.

Among the patents granted April 30, 1889, are the following:

Curtis Goddard, Alliance, O., No. 402,238, a corn-sheller.

Carl Haggenmacher, Budapest, Austria-Hungary, No. 402,440, a chop-grader.

Michael N. Lanfenburg, Stockton, Cal., No. 402,462, a grain-separator and cleaner.

Chas. H. Cooley, Hartford, Conn., No. 402,500, a valve-operating mechanism for grain-scales.

Stacy B. Hart, Peoria, Ill., No. 402,522, an elevator for grain-separators.

IMMIGRATION to the United States this year promises to be considerably less than it was last year. Probably it is well

that the current of not wholly desirable humanity should deflect to South America for a time. This country has great digestive powers, but we are free to confess that the character of some of the human elements that came to us during the past year implies national dyspepsia in case the diet is continued to excess. Uncle Sam's stomach has been receiving raw material for over a century, and it would be small cause of complaint if immigration were to cease altogether for a time.

#### STILL ANOTHER WHEAT-GERM FOOD.

According to "Le Genie Civil," Dr. Dujardin-Beaumetz recently exhibited at the Paris Academy of Medicine a new alimentary substance, "fromentine," which is obtained from wheat by the aid of special millstones. Fromentine is the embryo of wheat reduced to flour and deprived of the oil which it contains. The substance is said to contain three times more nitrogenous substance than meat and a strong proportion of sugar. Thus, the amount of nitrogenous matter in it is 51 per cent., while that of the richest meat, mutton, is but 21 per cent., and the proportion of digestible substances reaches 87 per cent. of the total weight. Hence it would appear that it might advantageously replace powdered meat as a concentrated food. It can be used for making soups and even for making biscuits, the taste of which would not be disagreeable. The wheat germs employed are a by-product in the Schwietzer process of manufacturing a flour which can be kept for a long time without deteriorating.

#### SPECIAL NOTICES.

##### LIBERAL OFFER.

With a view of increasing our subscription list, we will send a copy of R. J. Abernathy's new book, "The True Short System" (Price \$2.00) and "The Milling World" for one year at the very low price of Two Dollars. Renewal will be treated same way. This offer will only continue for a limited time. Now is your chance. Send in your subscriptions at once.

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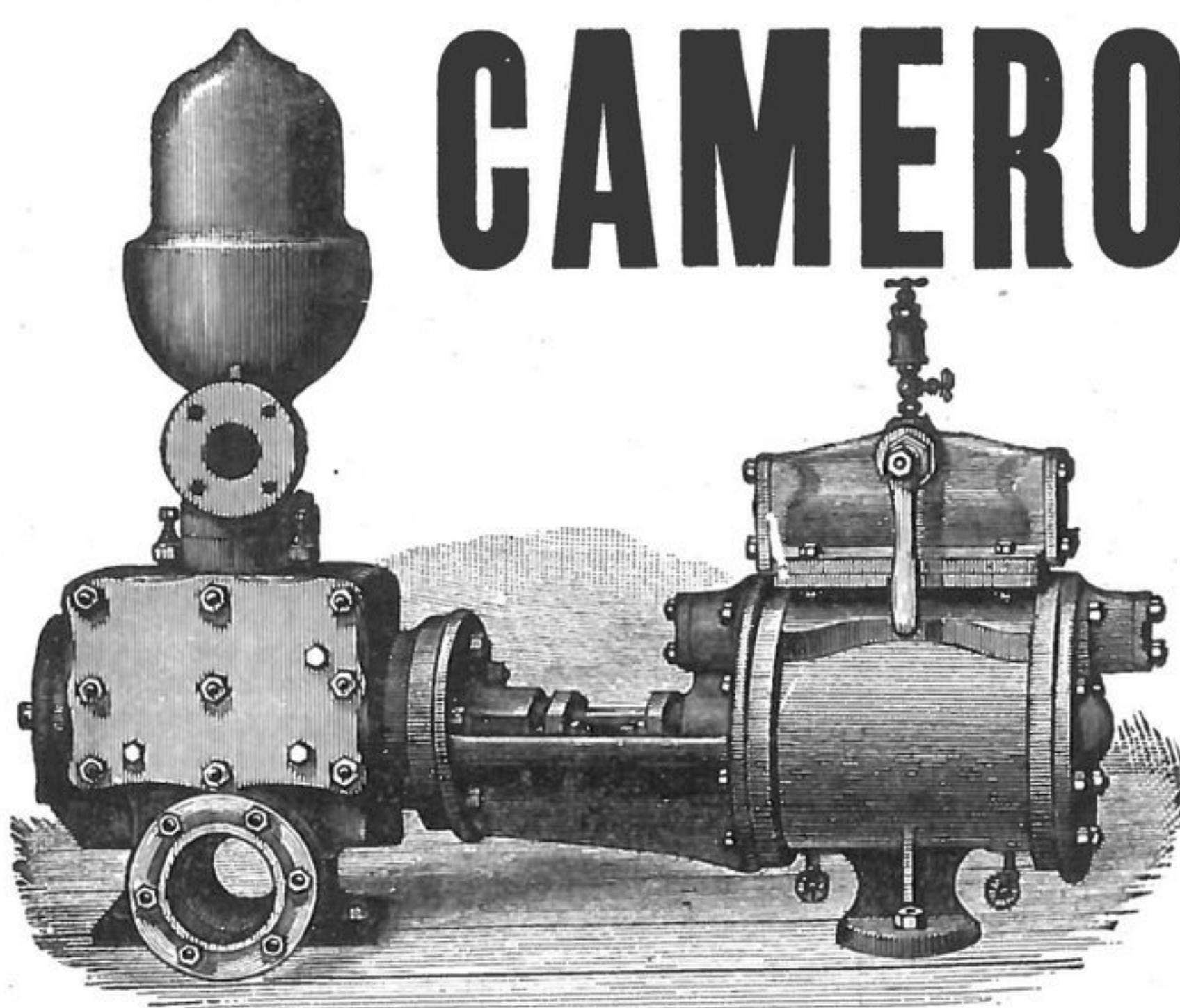
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BENZINE IS DANGEROUS.—It is announced that recent experiments made with benzine demonstrate the fact that one volume of benzine will render 16,000 volumes of air inflammable and 5,000 volumes of air violently explosive.

## GENERAL NOTES.

OF the world's refraction telescopes, nine have apertures exceeding 20 inches, viz.: Lick Observatory, California, 36 inches; Pulka, Russia, 30; Yale College 28; Littrow, Vienna, 27; University of Virginia 26; Washington Naval Observatory 26; Gateshead, England, 25; Princeton, New Jersey, 23; and Buckingham Palace, London, England, 21. Six of these instruments are the work of an American firm.

### COTEMPORARY COMMENT.

By the way, has it occurred to any of the essayists, who write learnedly on the evils of speculation in wheat, that the high prices at which wheat has been held during the last six months put nearly \$100,000,000 into the hands of farmers, where it was most needed? Speculation is not an unmixed evil.—*Chicago "Daily Business."* That's all right, neighbor, so far as the farmers' side of the question is concerned, but whence came those \$100,000,000? Is it a case of robbing Peter to pay Paul?

Owing to the openness of the past winter, the vast quantity of corn stored at Chicago is said to remain partially green and thus in a measure unfit for shipment to distant points. If placed in tight vessels, it is liable to heat or mold, and as shippers refuse to insure the grain against turning grade on voyage, buyers are slow to make purchases.—*Minneapolis "Market Record."*

### JUMPING ONTO BOGUS STATISTICS.

Below is given a criticism of that bumptious, pretentious New York publication, "Bradstreet's," by the lively Chicago "Daily Business." Our Chicago cotemporary says: "Bradstreet's is wroth and, like all impostors when discovered at their tricks, has become abusive under criticism. It pretends to give with great exactitude the available supplies of grain and flour in the United States and Canada east of the Rocky Mountains, and figured the corn on April 1 at about 21,000,000 bushels. 'Daily Business,' in reviewing the Chicago corn market of April 6, remarked concerning 'Bradstreet's' figures that they 'could only be regarded as a rude approximation and might be millions out of the way,' which observation stirred the bile of the cold compiler of figures, and with an air which great Ceasar's wife might have assumed under an accusation of lewdness, 'Bradstreet's' makes the rejoinder that its statement was no rude approximation and 'was not 1,000,000, or 500,000, or 100,000 bushels short of or beyond the truth.'

Let us select from this precious report a few specimens of

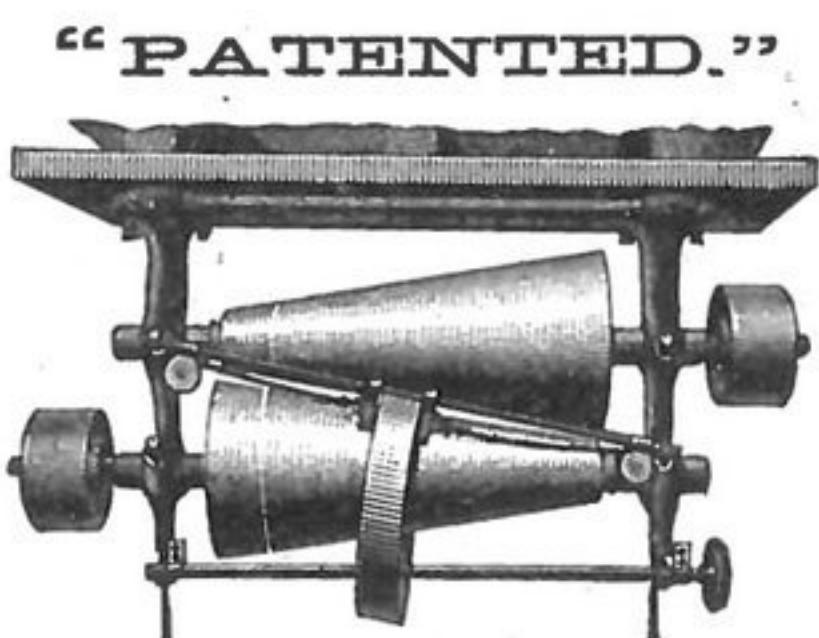
its transparent superficiality, on the strength of which it has so long been posing as the metropolitan high-priest of statistical research. Out of its own mouth it shall be convicted. It claims to give the stocks in elevators and storehouses out of farmers' hands in the region it pretends to embrace, which is the entire North American continent east of the Rocky Mountains. If it gave returns from 1,000, 2,000 or 3,000 different points in this enormous territory, it would have the merit of laboriousness at least to recommend it. But what is the fact? The comprehensive, reliable, not 100,000 bushels short of—or beyond the truth—report gives the stocks at just 52 different places out of all this vast region. This it dubs with the high-falutin title of 'original statistical work' and calls upon the world to admire such a specimen of its thoroughness. A partial analysis of the figures reveals the curious result that in Nebraska, whose crop of corn last year was 144,217,000 bushels, only 287,000 bushels of it were available on April 1, and that was all concentrated at the two points of Omaha and Lincoln. Iowa, which produced a crop of 278,232,000 bushels, could only muster 390,000 bushels available on the day the swarms of 'Bradstreet's' crop reporters scoured the empty land. Kansas could only show among all its myriad elevators and storehouses 93,700 bushels out of a crop of 158,186,000 bushels to lynx-eyed omnipresent 'Bradstreet's' agents April 1; and equally exhaustive is the balance of its totals which it says 'are the only ones which pretend to include practically all the stocks of moment out of farmers' hands.'

"The absurdity of presenting such figures as conveying information of any service concerning a 2,000,000,000-bushel crop in the first half of its movement is only equaled by the effrontery of a writer who, knowing their insufficient and superficial character, would risk the exposure of his ridiculous pretentiousness in attempting to defend them. 'Bradstreet's' effort to make a monthly inventory of every thing in the heavens above and on the earth beneath which has a value in dollars and cents is much too ambitious a project for its means or capacity, but an acknowledgment of that fact is more than is to be expected of either its candor or its honesty."

SAYS the Toronto, Ontario, "Monetary Times:" Although there are about 50 mills represented in the Oatmeal Millers' Association, hardly a dozen members responded to the circular calling a meeting for last week in this city. Those who did attend were of opinion that there are too many mills at the present time, and with a number of new ones in sight, notwithstanding that one-third of those in existence are not now running, the effect on prices must be any thing but beneficial to the miller. So discouraging was the outlook that a resolution winding-up the association was adopted.

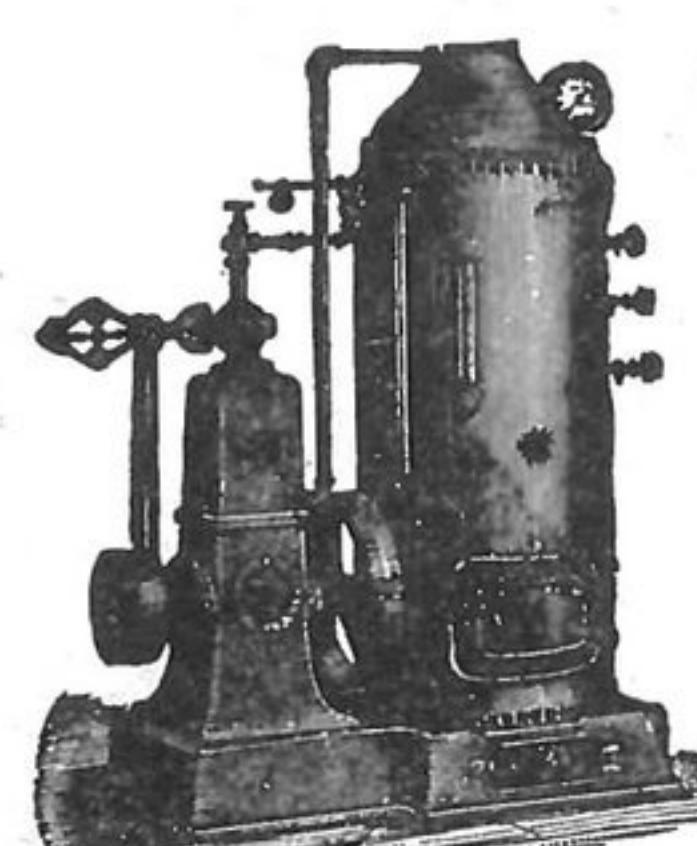
SURG. GEN. WOODWARD, U. S. Army, says of the results of chronic malarial poisoning: "Disorder of the kidneys frequently complicates the condition under consideration. Scanty, more or less albuminous urine is often observed, and those cases not infrequently terminate in chronic Bright's disease, with confirmed albuminuria, oedema or general anasarca." What at first is recognized as malaria is subsequently found to be Bright's disease, which Warner's Safe Cure cures.

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"PATENTED." This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is fluctuating. All sizes made from  $\frac{1}{2}$  Horse Power to .50 Horse Power. SEND FOR ILLUSTRATED CATALOGUE.

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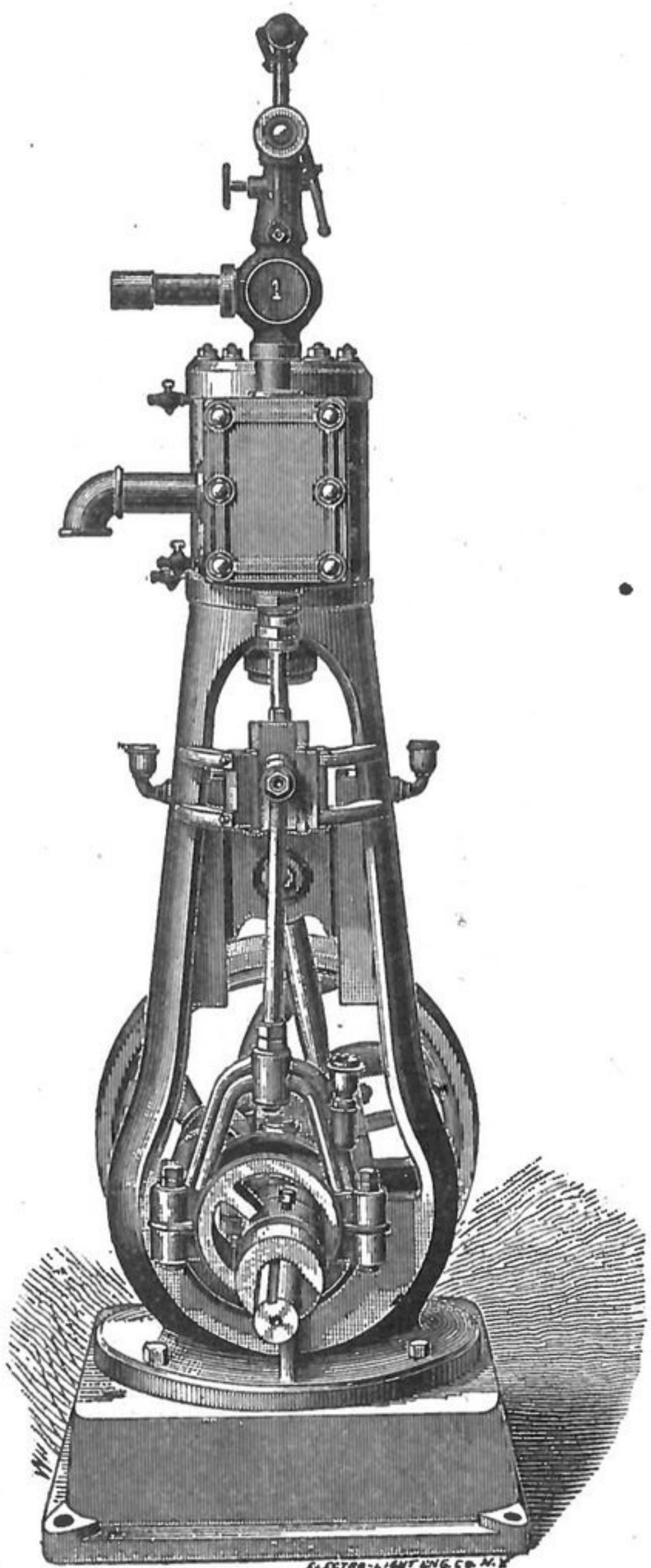
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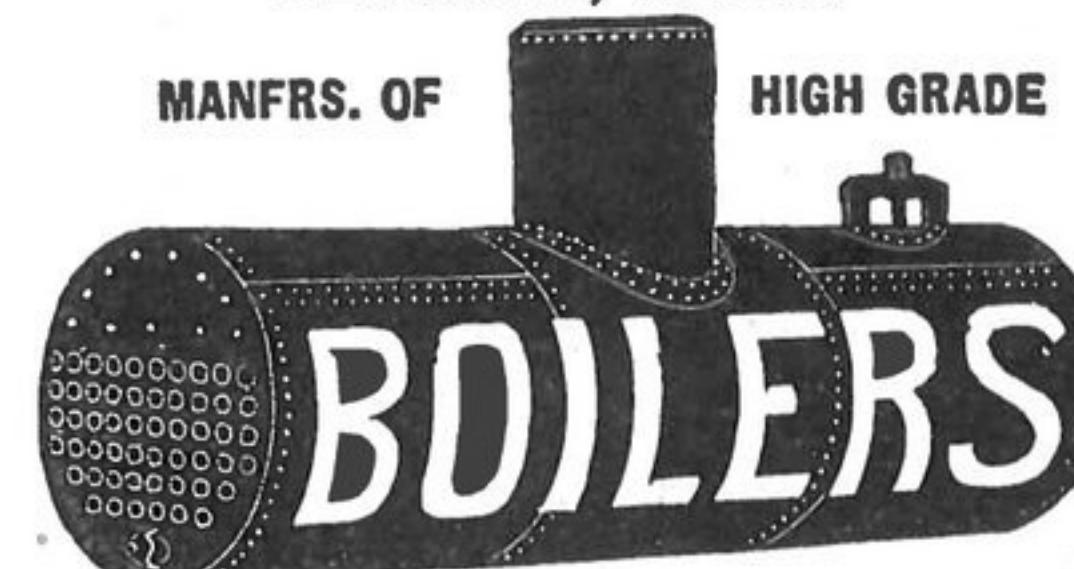
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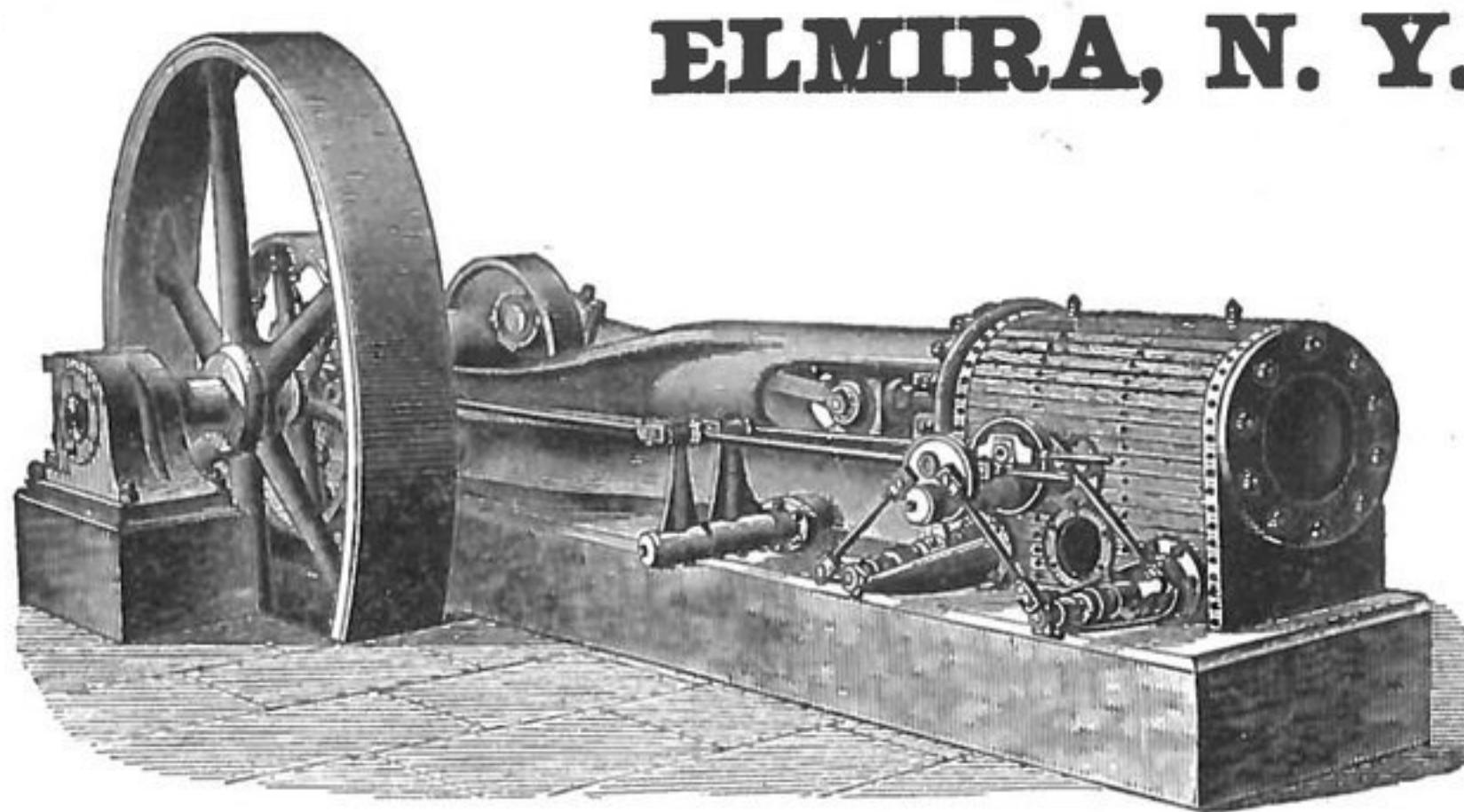
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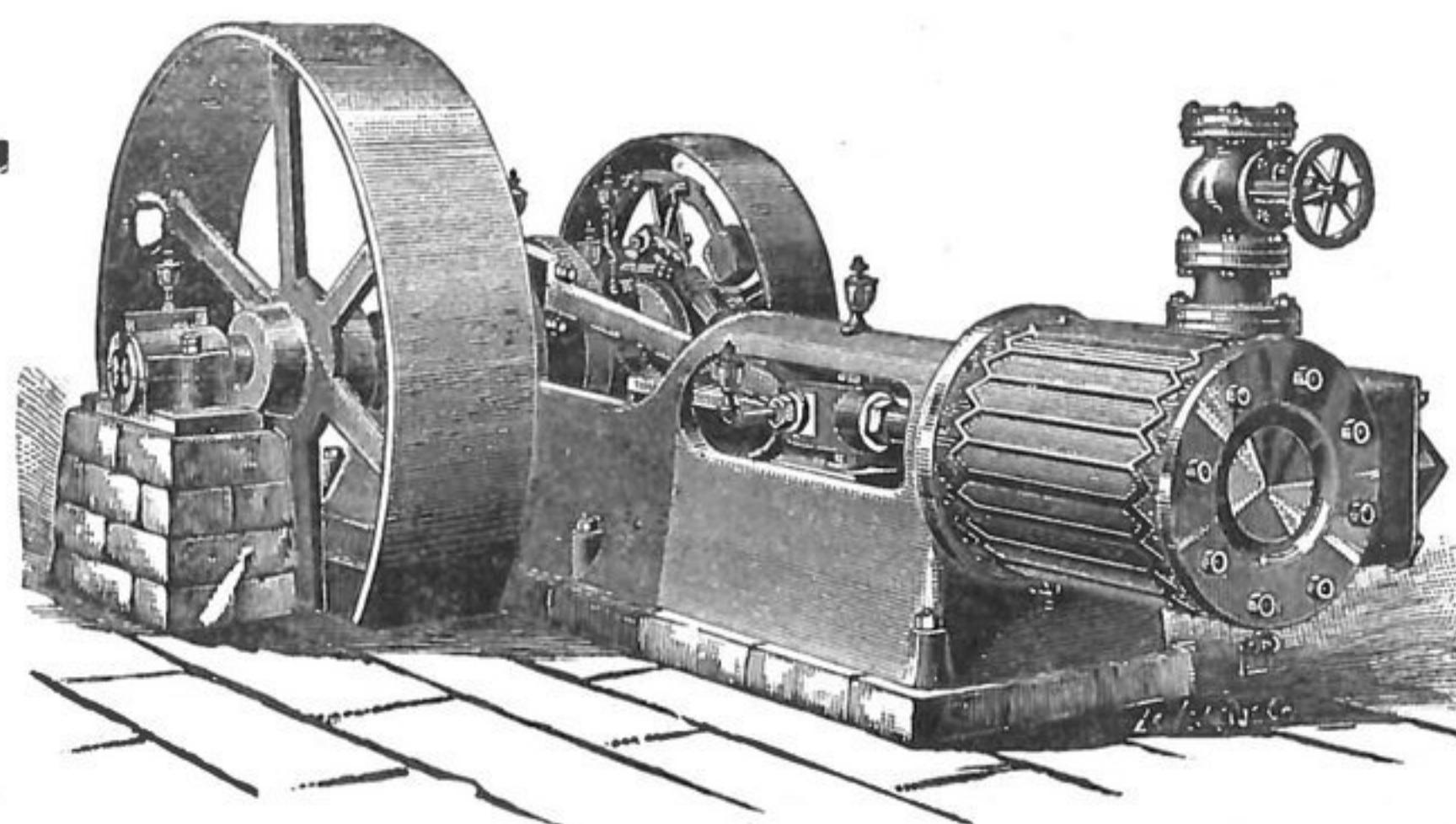
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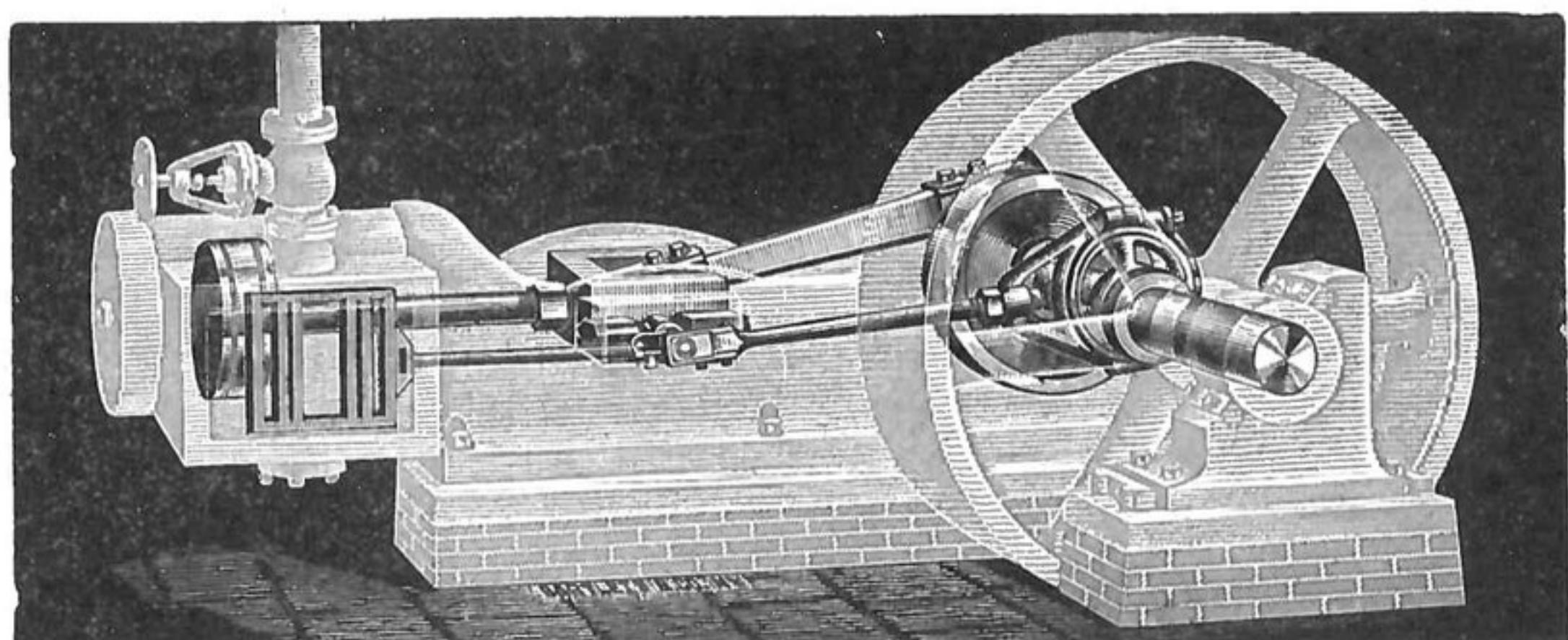


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H. B. Russelle, Asheville, N. C., built a grist-mill.  
 H. T. Evans, Summerville, Ga., builds a flour-mill.  
 H. T. Evans, Summerville, Ga., wants a feed-mill.  
 R. Gardner's mill, Friend's Station, Tenn., burned.  
 Hanks' flour-mill, Bucyrus, O., burned; loss \$5,000.  
 A. Rhea, Ashland City, Tenn., has built a grist-mill.  
 Z. T. Lawrence, Cedar Bluff, Ala., builds a grist-mill.  
 Warren & Son, Sugar Valley, Ga., started a grist-mill.  
 C. A. Lower, mill, Table Rock, Pa., sold to R. B. Myers.  
 W. T. Wood's grist-mill, Oconee, Ga., burned; loss \$800.  
 Mr. Harkrader, Wytheville, Va., puts in 50-barrels rolls.  
 The Roberts mill, Georgetown, Tex., will change to rolls.  
 Newhart Bros., grist-mill, Bodines, Pa., now Robert Innes.  
 R. H. Browne, St. Mary's, W. Va., improves his flour-mill.  
 J. Tyson, miller, Ashland City, Tenn., moves to Cedar Hill.  
 The Star Flour Mills Co., Galveston, Tex., start a cooperage.  
 H. C. Medlin's grist-mill, Morristown, Tenn., burned; loss \$1,000.  
 J. M. Gambrill & Co., Roanoke, Va., build a 75,000-bushel elevator.  
 Lewis' elevator, Ambia, Ind., burned; loss \$9,000; insurance \$5,000.  
 Wofford & Henderson, Gainesville, Ga., build a 75-bushel grist-mill.  
 W. H. Thorne, Panacea Springs, N. C., wants flour-mill machinery.  
 Capt. Salls and others, Fort Smith, Ark., will build a large flouring-mill.  
 The Jackson Vanarsdale Distillery Co., Covington, Ky., want a corn-mill.  
 The Roller Mill & Warehouse Co., Greencastle, Pa., now Davison & Grover.  
 Little, Hale & Co.'s grist-mill, North Paris, Me., burned; loss \$2,000; insurance \$500.  
 The Listman flouring-mill, LaCrosse, Wis., burned; loss \$125,000; insurance \$85,000.  
 McLemore & Bros.' grist-mill, Columbia, Tenn., burned; loss \$30,000; insurance \$18,000.  
 T. Phelps' elevator, Decorah, Ill., burned; loss total; fire caused by lightning; no insurance.  
 C. W. L. Hale, Liberty, Tenn., wants a water-wheel and machinery for a 40-barrel roller mill.  
 J. Reymershoffer, Galveston, Tex., and others, will operate the Houston Flour Mill, at Houston, Tex.  
 The Water Roller Mill Co., Liberty, Tenn., build a 40-barrel roller flouring-mill; they want machinery.  
 J. Baldrige and others, Ennis, Tex., have formed a \$20,000 stock company to build a 100-barrel roller flour-mill.  
 Byrd Smith and others, Devine, Tex., have incorporated the Devine Mfg. Co., capital stock \$10,000, to operate a grist-mill.

The total yearly value of American agriculture is estimated at \$5,558,000,000. Of this amount \$617,000,000 are exported, \$4,172,000,000 are consumed by the manufacturers and mechanics of the country as food and either directly or indirectly as raw materials, and the balance enters into miscellaneous consumption.

Among the recent sales of the Curtis Regulator Company, Boston, Mass., is an 8-inch steam separator for the Tremont Nail Co., of West Warehouse, Mass. This is the third large separator they have furnished for these works. They are also making a 10-inch separator for the Alexander Bay & Thousand Island Steamboat Co., Carthage, New York. Each separator is provided with a balance-trap that automatically delivers the condensation into the hot well.

Agriculturists in the Canadian northwest are becoming enthusiastic over the excellent crop prospects of that region. Fears of drouth had been entertained in the west during the month of March, but on April 1 a heavy snow fell throughout the Qu' Appelle district, greatly improving the condition of the soil and crop prospects. The need of moisture in Manitoba during the early part of the season was much less than further west. Reports say that farmers in the Canadian northwest intend to cultivate every available foot of land, thereby increasing the acreage this year some 20 to 25 per cent.

Among the larger concerns who have recently adopted the "Reliance" safety water-columns, manufactured by the Reliance Gauge Co., of Cleveland, O., are the Salisbury Mfg. Co., Salisbury, Md.; The Gorrie Ice Mfg. Co., Savannah, Ga.; The Collins Co., Collinsville, Conn.; S. W. & E. D. Springer, South Creek, N. C.; The Hill Clutch Works, Cleveland, O., and the Brooklyn Line of Electric Railway, Cleveland, O. The Reliance Company also received a second order from Haldeman, Grubb & Co., of Chickies, Pa., who had been using these safeguards for over a year, and a third order from the Walker Mfg. Co., of Cleveland, who bought their first column about three years ago. They are sold on their merits and seem to be giving remarkable satisfaction.

A. Minnesota paper tells of a corn-husking machine, invented by an Austin man, as follows: Here is a steel corn-husker, drawn by a team, that goes into a cornfield bending with the golden harvest and, unaided, picks and husks the corn at the rate of eight to twelve acres a day, ac-

cording to the capacity of the team. The machine is not unlike a harvester. The team and machine move astride the row, one each side, and every thing in the shape of corn, large or small ears, down or up, high or low, is picked up and saved. It gathers every thing to three inches of the ground. It will work as effectively upon the mammoth crops of Illinois and Nebraska as upon the dwarf corn of Northern Michigan. Alongside of the corn-husker is arranged an elevator, and the farmer's wagon following the machine receives the golden ears as fast as husked all ready to be binned. The machine gathers all the crop and does a clean job of husking.

A report from St. Louis, Mo., dated April 28, says: The eleven mammoth grain elevators on both sides of the river have decided to combine in order to cut down expenses and prevent the ruinous competition that now exists. This competition has induced several of the elevator companies to enter the field of speculation in order to make up the losses sustained in competition. The chief argument for the formation of the trust is that it will remove the temptation to speculate, which ruined the president of the St. Louis Elevator a few days ago. The presidents of the elevators held several meetings last week, at which the plan was discussed, and all favored it. Five elevators are on the east side of the river and six on the west side. The plan is to unite all the elevators under one management and divide the profits pro rata. Grain will then be consigned to the nearest elevator, and in this way heavy switching charges will be saved. There would also be a big reduction in operating expenses, and it is estimated that the elevators would save \$200,000 that is annually paid to commission men. The capital invested in these elevators is about \$5,000,000, and certificates will be issued on the basis of the present valuation of the different stocks.

Says the Toronto, Ontario, *Monetary Times*: It sounds strange to hear that Canadian barley should be practically an unknown product in the English market, but such is the fact. Mr. Drury, Minister of Agriculture, Ontario, sent several samples of Canadian barley to English brewers for their opinion on its suitability for malting. The opinions are various, but on the whole decidedly not flattering. One brewer thinks the grain capable of being largely used in English breweries; three think it "too thin," and one of them says "too small," adding that it was of a "steely" character, whatever that may mean; it probably means what another says when he calls it "too hard." Another says that he would lose about 30 per cent. by screening, and that it is more fitted for grinding than brewing. One describes it as "a good sound sample." The Bass Brewing Company says that "it is not of the quality we use," but they think it might do for distillers and brewers of mild ale. In the United States our barley has enjoyed the reputation of being the very best for malting purposes; and it takes one aback a little to hear these English opinions. But they doubtless contain some truth which it is desirable that we should know. One brewer gives advice which may be worth taking when he says: "A finer quality of seed barley should be distributed among the farmers to enable them to produce a better sample."

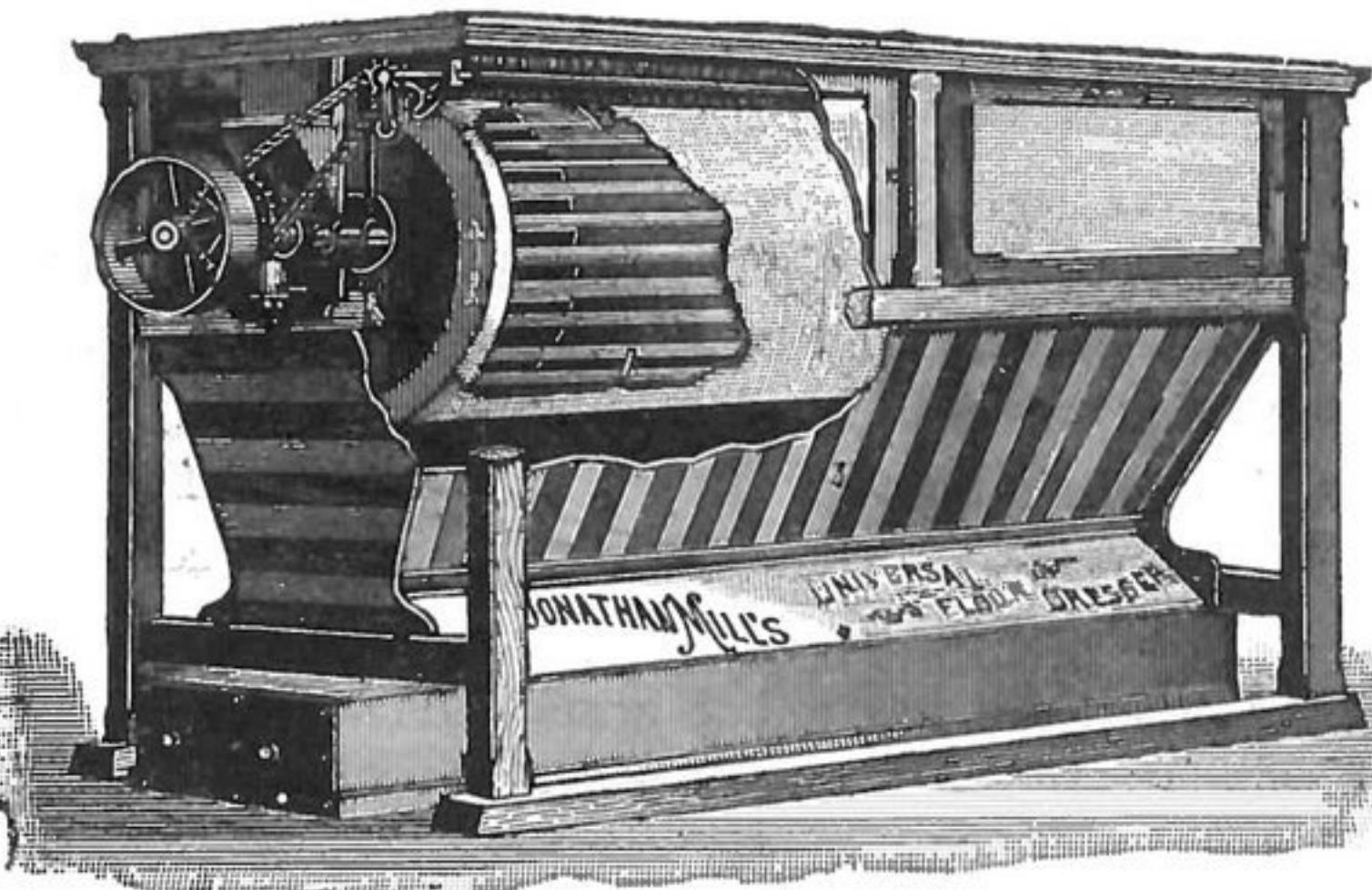
#### BOOKS AND PAMPHLETS.

A new volume of *The Century* begins with the May number, the frontispiece of which is one of Mrs. Foote's pictures of the Far West, "Cinching Up." Then follow two of Cole's engravings of the old Indian masters, with accompanying articles by W. J. Stillman and the engraver himself. The most timely papers in the number are a series on "Samoa: the Isles of the Navigators." The first is by Dr. H. W. Whitaker, of the United States Navy, and is profusely illustrated. The second, also illustrated, is on "Our Relations to Samoa," by Mr. George H. Bates. The third paper in this series is a brief one by Captain Erben of the United States Navy, who commanded the "Tuscarora" when it took Steinberger to Samoa in 1875. The readers of war literature will be especially interested in the chapters of the Lincoln History, the article on "The Western Soldier," and "Open Letters" and editorials on "Soldiers' Memorial Services," "Fraternization—The Blue and the Gray," and "General McClellan's Baggage-Destroying Order." The Lincoln History deals this month with "The President and the Draft," "Vallandigham," and "The Peace Party at the Polls." Charles de Kay writes this month, in his Irish series, on "The Monasteries of Ireland"; Mr. Wilson, in his illustrated International Sunday School series, writes on Jerusalem and its environments; Mr. Cable tells the strange true story of Salome Muller, a white woman sold into slavery; and Mr. Kennan, in his series on the Siberian Exile System, describes "A Ride through the Trans-Baikal." A curiously illustrated article on Jean Francois Millet is by Wyatt Eaton. In fiction the number contains another installment of Mrs. Mary Halleck Foote's story, "The Last Assembly Ball"; "Tom's Strategy," by Mr. Edwards, the author of "Two Runaways"; and "Roby's Christian Charity," by James T. McKay. There are poems by Edward Everett Hale, Dora Read Goodale, Charlotte Fiske Bates, H. S. Morris, Walter Learned, Margaret Crosby and Frank Dempster Sherman. In "Topics of the Time" and "Open Letters" the following subjects in addition to those mentioned above are discussed: "No New Sectional Division," "Office Seeking the Man" and "The Abuse of Applause."

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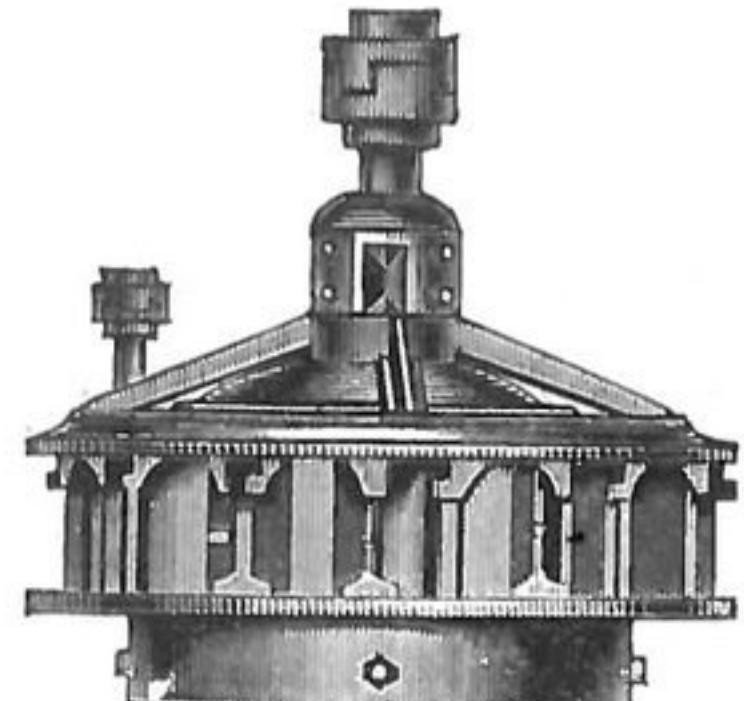
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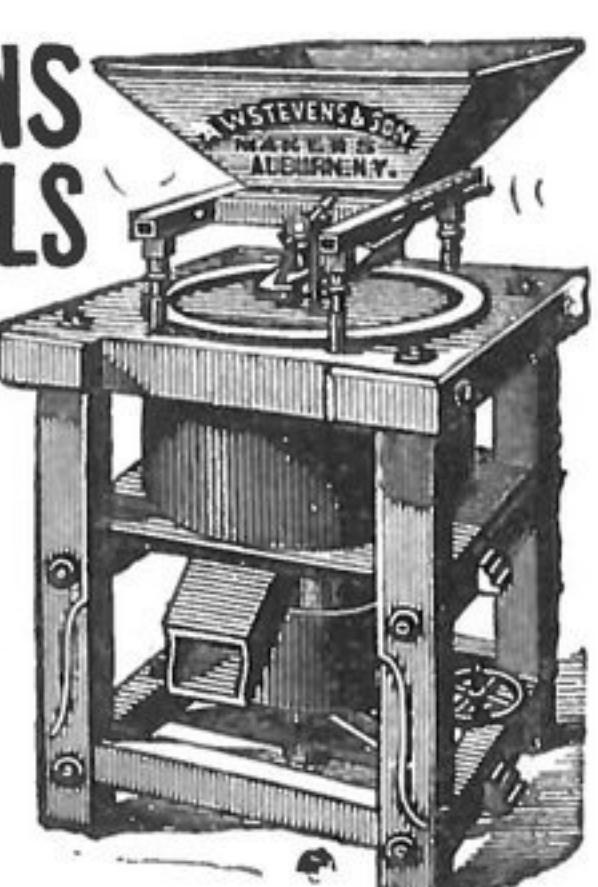
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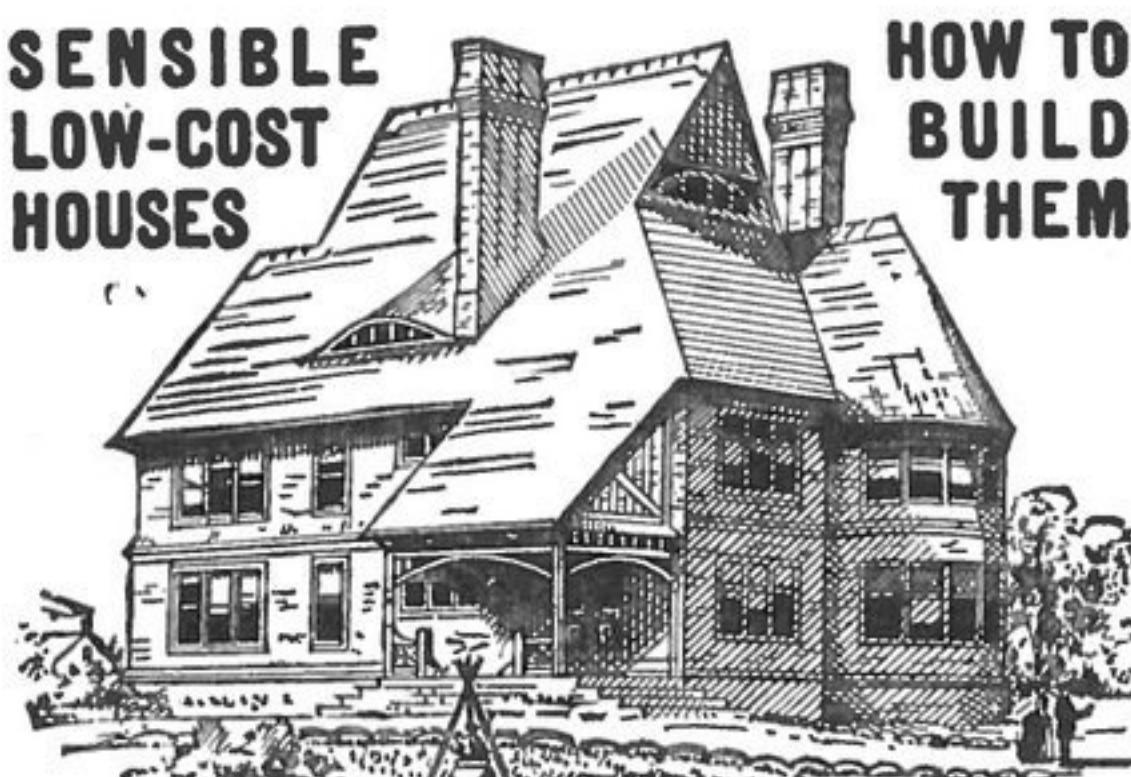
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## EUROPEAN ECHOES.

THE National Association of British and Irish Millers will hold the annual convention for 1889 in Paris, France, on August 20, 21 and 22. The convention of the French National Millers' Association will be held in the same city at the same time, giving the French and British millers a pleasant opportunity to become acquainted.

It has been decided to construct a commercial port at the ancient Grecian town, Theodosia, in the Crimea, and to extend the Sebastopol Railway to that point. Elevators are being built in the various towns on the Black Sea, and it is thought that their erection will give an impetus to the Russian grain trade, which of late years has suffered severely from American competition. In Libau a new elevator and magazine will be constructed, capable of holding about 1,500,000 pouds of grain. The newest American appliances will be used for cleaning the grain, which has of late deservedly obtained a very bad reputation on account of the filthy state in which it has been sent abroad by the shippers.

REPORTS from Odessa state that the Agricultural Society of the South of Russia, whose head-quarters are at Odessa, have formed a scheme by which modern grain elevators are to be built in the ports of Odessa, Nicolaieff, Sebastopol, Kherson, Kertch, Akkerman and Berdianski, as well as at certain important points on the navigable rivers. The capital is to be 25,000,000 roubles, which will be issued in the shape of a loan redeemable in 38 years and bearing interest of 5 per cent. under Government guarantee. A land tax of three copecks per desiatine in the four Governments of Kherson, Tauridia, Ekaterinoslav and Bessarabia will furnish the funds for the interest, aided by a charge of half a copeck per poud on all grain passing through these elevators. The enterprise will be under State control.

SAYS the London "Millers' Gazette" of April 15: The imports of flour into the United Kingdom during March were relatively very small, 862,676 hundredweights, against 1,398,654 hundredweights last March. For the first three months of the year the imports with the sources of supply have been as follows:

	1889.	1888.	1887.
From	cwts.	cwts.	cwts.
U. S.—Atlantic.....	1,645,205	3,817,276	3,802,935
"    Pacific.....	216,300	54,107	402,734
Austria Hungary.....	592,783	498,072	544,037
Germany.....	299,202	114,343	156,846
Sundries.....	148,193	71,513	94,067
Total.....	2,901,683	4,555,311	5,000,619

The decrease, compared with last year, is, therefore, about 36 per cent. Hungarian millers have rather reduced their pretensions lately, but the export demand has fallen off considerably, the prices asked being too high. The exports via Fiume in the week ended 3rd April were 26,173 quintals, including 8,191 to London, 7,200 to Leith, 3,200 to Dublin and 7,382 to Lisbon.

SAYS the London "Miller" of April 15: American wheat continues to fall in price—on paper. Those who speculate in it in Chicago and New York have been able to make contracts at lower terms than have been quoted for a very long time. But it is not certain that American millers are "laying hold" of the actual grain for conversion into flour. Even at the last reductions in wheat terms millers do not seem much encouraged to compete with European millers. But if American wheat is not yet moving from interior to Atlantic ports, the regular weekly reports of decreased prices and speculative buying and selling make an impression on English and French markets and continue to depress them, without much reason, perhaps, but with vexatious influence. The past week, with its weather darkness and its market blackness, has been a very gloomy one. The corn exchanges keep destitute of spirit, and confidence in the future is less and less pronounced. Country reports of harvest

prospects at home, in America, in France, are allowed to be good, but their influence upon present trade is exaggerated. It is said unthinkingly by practical farmers, "harvest ought to be three weeks earlier than it was in 1888." Very likely it may be, but their last harvest was abnormally late; and certainly our fields in mid-April can not be regarded as in advance of any ordinary year. Indeed trees and crops are behind time, but, whether early or late, the fields in their aspects do not warrant the confidence as to harvest results that are being prematurely discounted. Why, in parts of Russia, as in American spring wheat regions, the actual seed-ing is hardly successfully accomplished, and in the first-named country the winter sowings of rye and wheat have suffered considerably from a very severe season. The harvest subject generally may well be deferred until mid-May, by which date opinions are formed with some definite knowledge of the season. What buyers find a favorable argument on their side is the fact of available supplies keeping ample for their current wants. The seller is always offering them more stock than they care to take, and the example of the wheat seller to the miller is followed by the miller towards the baker, the latter gets more flour offered to him than he wishes to have in stock. Too much in sight, too much on offer overweights demand.

## MODERN MILLING AND MODERN TEETH.

According to our excellent New York cotemporary, "The American Analyst," the modern milling processes and modern flour are great enemies to modern teeth. It says: Teeth are just as easily starved to death as the stomach. In one way it is a blessing to have been born of poor parents. What food the poor give their children is of the variety that that goes to make strong bones and teeth. It is the outside of all the grains, of all cereal foods, that contains the carbonate and phosphate of lime and traces of other earthy salts which nourish the bony tissue and build the frame up. If we do not furnish to the teeth of the young that pabulum they require, they can not possibly be built up. It is the outside of corn, oats, wheat, barley and the like, or the bran so-called, that we sift away and feed to the swine, that the teeth actually require for their proper nourishment. The wisdom of man has proven his folly, shown in every succeeding generation of teeth, which become more and more fragile and weak. These flouring-mills are working destruction upon the teeth of every man, woman and child who partakes of their fine bolted flour. They sift out the carbonates and the phosphates of lime in order that they may provide that fine white flour which is proving a whitened sepulcher to teeth. Oatmeal is one of the best foods for supplying the teeth with nourishment. It makes the dentine, cementum and enamel strong, flint-like and able to resist all forms of decay. If you have children, never allow any white bread upon your table. Bread made of whole wheat ground, not bolted, so that the bran which contains the minute quantities of lime is present, is the best. To make a good, wholesome, nourishing bread, take two bowls of wheat meal and one bowl of white or bolted flour, and make by the usual process. Nothing is superior to brown bread for bone and tooth building. This is made out of rye meal and corn meal. Baked beans, too, have a considerable supply of these lime salts, and should be on your tables, hot or cold, at least three times a week. In brushing the teeth, always brush up and down from the gum instead of across. Brush away from the gum and on the grinding surface of your teeth.

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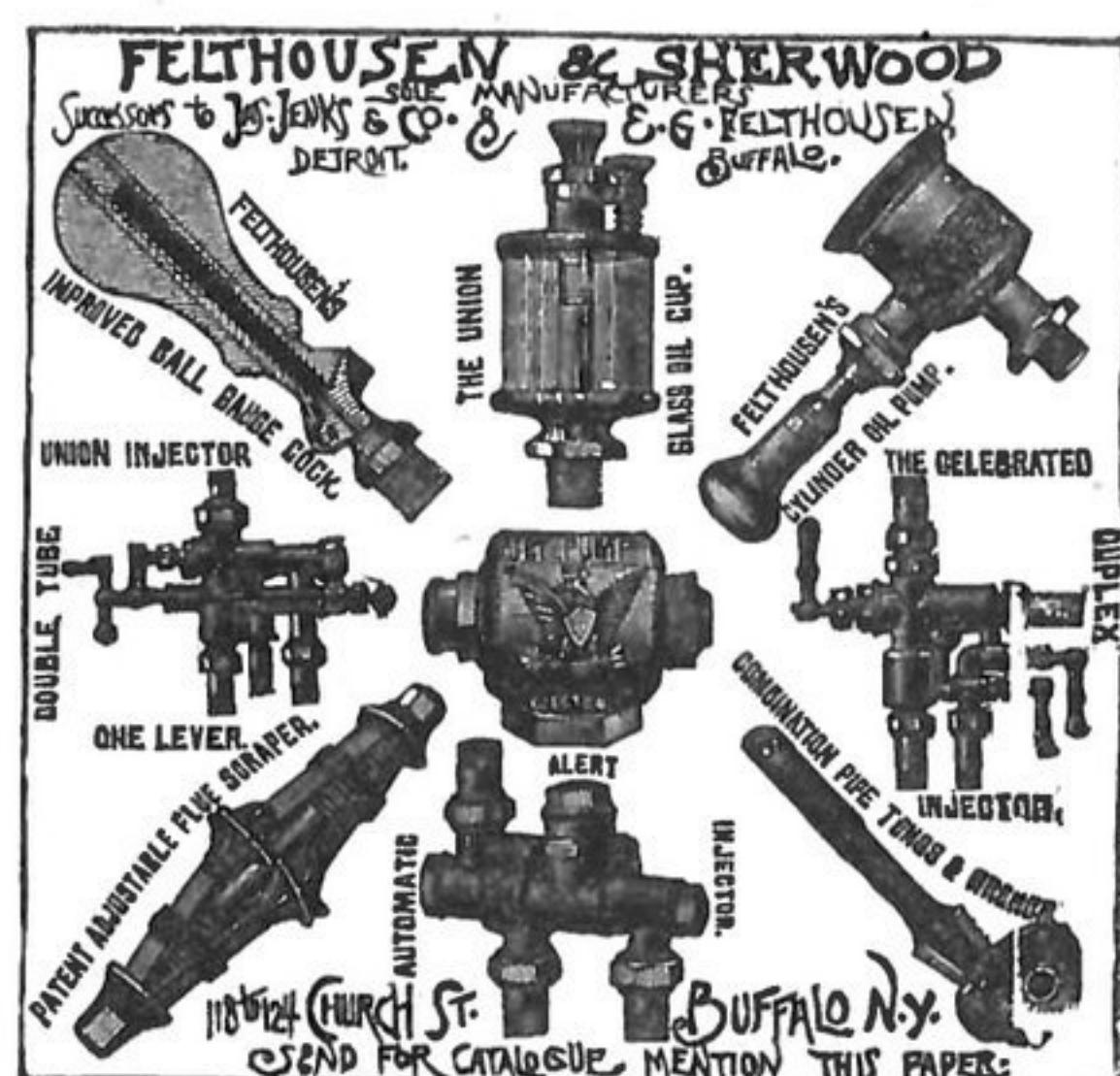
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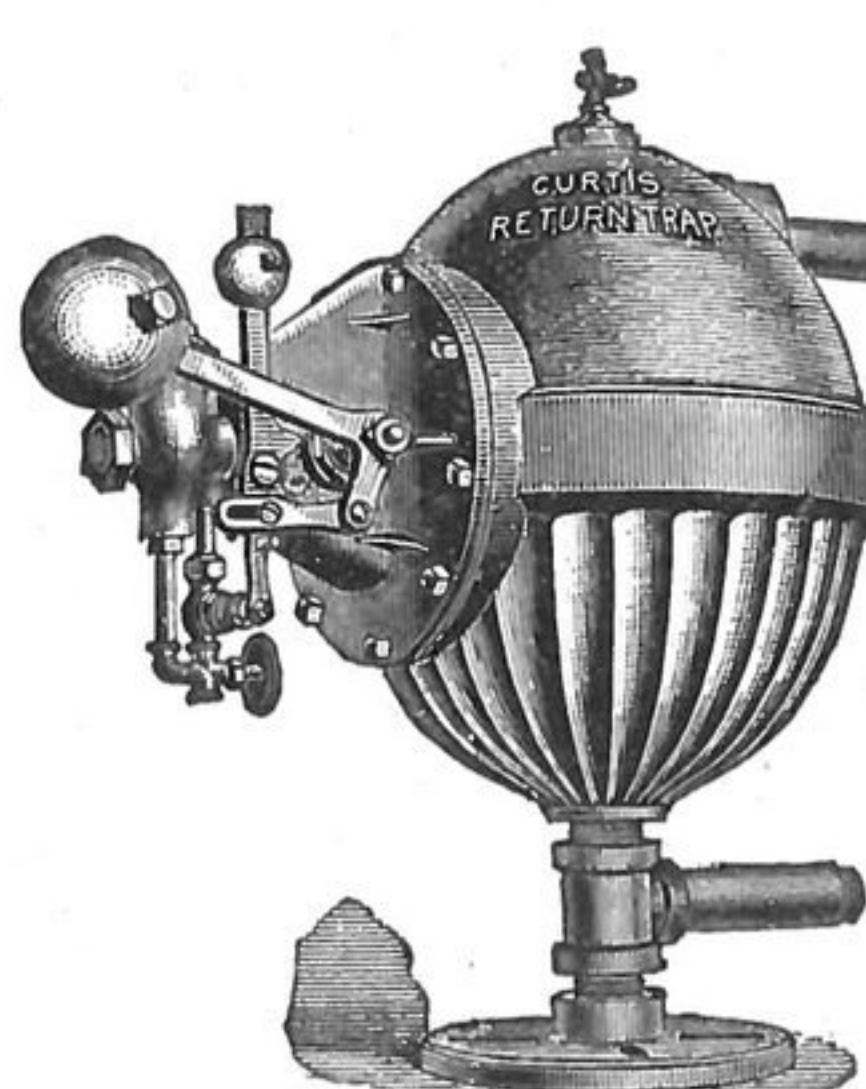
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and MAY 1, 1888.  
ADDRESS YORK, PENN.  
for PRICE &c. &c.



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PATENT RETURN STEAM TRAP.

It is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

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MINNEAPOLIS, 210 S. Third st. NEW ORLEANS, 21 Union st.



OFFICE OF THE MILLING WORLD,  
BUFFALO, N. Y., May 4, 1889.

On Friday of last week better cables and spot demand abroad made wheat slightly steadier. April wheat opened at 83c. and closed at 83½c. Options 2,600,000 bushels. Considerable wheat was taken by exporters for Europe. Corn for April closed at 43½c. and oats at 29½c. Wheat flour was steadier and stronger with wheat. The other lines were featureless.

On Saturday every thing was dull and irregular, excepting wheat and flour. April wheat closed at 83½c. on stronger foreign conditions. Options 3,500,000 bushels. Exporters were only 1c. above the New York market on wheat. April corn closed at 43½c. and oats at 29½c. Wheat flour was stronger with wheat. In all lines trade was restricted by the inability of the dealers to guarantee delivery until all the Centennial parade and excitement have ended. The minor lines were unchanged and featureless.

On Monday business was drowned in the Centennial flood in New York. The markets were dull, unchanged and featureless. May wheat closed at 83½c. Options 2,400,000 bushels. May corn closed at 41½c. and oats at 28c. Wheat flour was chiefly nominal. Some export sales were reported.

Tuesday was wholly given up to the Centennial celebration, and the markets were lost sight of. Chicago kept open house, but business was light.

On Wednesday the markets were quiet. May wheat closed at 83½c. in New York and 81½c. in Chicago. Options 2,400,000 bushels. Exporters took some wheat for Europe. May corn closed at 41½c. and oats at 18c. Wheat flour was nominal. Exporters took some stock for Europe. The other lines were unchanged and featureless.

On Thursday the markets were active and unsettled. Heavy rains in the West and large realizing tended to depress wheat. May wheat opened at 83½c. and closed at 82½c., just 12c. below the notch on the same day last year. June closed at 83½c., July at 84½c. and August at 84½c. Options 11,750,000 bushels. London cables were 3d. higher and Liverpool cables 2d. lower. Exporters did some buying for Europe. Numerous inquiries showed that European buyers will take American wheat freely just as soon as they have succeeded in hammering it down to their figures. May corn closed at 41½c. and oats at 28½c. Sales were fair. Rye grain was quoted as follows: Western, 58@52c. for spot and 49c. to arrive afloat; 57@58c. for State afloat on spot; 54@55c. for Jersey and Pennsylvania on track; 56@57c. for No. 1 in elevator. Barley was nominal at 65@73c. for Canada to arrive. Malt was flat at 95c@\$1.05 for the

whole range of Canada, city and country; 87½@92½c. for 6-rowed; 85@90c. for 2-rowed, and 70@85c. for Western to arrive. Mill-feed was quiet at the following quotations: 40-lb, 55@60c; 60-lb, 60@62½c; 100-lb, 70@85c; sharps, 70c; rye, 70@75c; oil meal, \$1.27½@1.32½c; cotton seed meal, \$1.25@1.35.

Wheat flour was quiet but less demoralized, the grades below \$4.15 being scarce and stronger, both springs and winters. Grades between \$3 and \$4 were steady and in fair demand, while local buyers and sellers are apart. Export business was good.

Following are the flour quotations:

SPRING FLOUR.

	Sacks.	Barrels.
No grade.....	\$1.60@1.80	\$....@....
Fine.....	2.00@2.20	2.25@2.50
Superfine .....	2.25@2.65	2.60@3.00
Extra No. 2.....	2.85@3.00	3.00@3.25
Extra No. 1.....	3.25@3.75	3.50@4.25
Clear .....	3.35@3.75	3.75@4.00
Straight .....	4.45@5.00	4.50@5.50
Patent .....	5.35@5.75	5.25@6.15

WINTER FLOUR.

	Sacks.	Barrels.
No grade.....	\$1.80@2.00	\$....@....
Fine .....	2.20@2.50	2.35@2.60
Superfine .....	2.40@3.00	2.90@3.15
Extra No. 2.....	3.10@3.50	3.35@3.60
Extra No. 1.....	3.50@4.25	4.00@5.10
Clear .....	3.75@4.20	4.05@4.35
Straight .....	4.50@4.75	4.65@5.00
Patent .....	4.75@5.00	5.00@5.65

CITY MILLS.

W. I. grades.....	\$4.35@4.55
Low grades.....	2.35@2.50
Patents.....	5.00@6.00

Rye flour was dull at \$2.00@3.00. Corn products were dull at the following quotations: Coarse meal, 83@86c; fine yellow, 95c; fine white, \$1.00; Brandywine and Sagamore, \$2.85; Western and Southern in barrels, \$2.70@2.80; do. coarse and fine in sacks, 75c@\$1.10; hominy \$2.50@2.75; grits, \$2.35@2.65.

BUFFALO MARKETS.

Yesterday the wheat markets generally were weak and declining, closing 1@2½c lower. Here there was only a moderate demand for hard spring, limits for which were unchanged; Sales were reported of 6,290 bu new hard at \$1.05 1,250 bu old No. 1 Northern from Chicago at \$1.00 600 bu No. 1 Northern at 83c. and 1 boatload ditto on private terms. At the close old hard was held at \$1.21½c—44c. over Chicago July; new hard at \$1.05, flat; old Northern (Chicago) at \$1.00; No. 1

Northern (Duluth) at \$1.00½; No. 2 Northern at 88½c—8c over May. At Chicago July opened at 78½c. its top mark; it sold down to 77½c and closed at 77½c—a decline of 1½c from the previous day; the last curb was 77½c. May opened at 81c, and closed at 78½c. its lowest point—a loss of 23c. At Duluth May opened at 97½c and closed at 95c—1c lower. At New York May closed 83½c—a decline of 1½c. Winter wheat was dull. Red was easy; but white, owing to scarcity, was a large premium, about 10c over red. No. 2 red Illinois was offered at 9½ over Chicago and July, and Michigan at 5c over Detroit May. Sales comprised 1 car No. 2 red Illinois at 86½c. 1 car ditto Michigan at 91½c, 2 cars No. 2 white at 99½c. At the close Illinois red was held at 87c. Michigan red at 90½c. No. 1 white at \$1.00. CORN—was quiet and firm, closing about ½c better. Sales were reported of 23,000 bu No. 2 in lots at 47½@88½c., 8 cars No. 3 at 88c. 1 boatload No. 3 at 87½c. 11 ditto at 86½@87½c. all in store. No. 2 closed 87½c. 8½c. over Chicago June. No. 3 at 87½c. 8½c. over No. 3 yellow at 88c for straight, and 88½c for choice, 4@4½c over. OATS—were dull and weak, closing ½c lower. Sales reported were 1 car No. 1 car white at 81½c. 2 cars ditto at 81c. 1 car No. 1 white at 29½c. 1 car No. 2 mixed at 27c on track, 3 cars ditto at 26½c in store. BARLEY—was dull and steady, with slightly between offerings. Two cars No. 3 Canada sold at 58c. RYE—Was nominal. FLOUR—Was quiet and steady, and millfeed easy.

Says the San Francisco *Commercial Herald* of April 18: The rain still continues to visit us in the shape of occasional showers which keep the grass green, the earth well supplied with moisture and the crops growing finely. The prospects are most brilliant, and though expectation may not be realized to the full, we must have very good crops. Even the west side San Joaquin talks of forty bushels to the acre.

Frederick T. Roberts, M. D., Professor of Clinical Medicine at University College Hospital, London, England, says: "Bright's disease has no symptoms of its own and may long exist without the knowledge of the patient or practitioner, and no pain will be felt in the kidneys or their vicinity. All the diseases to which the kidneys are subject and to which they give rise can be prevented if treated in time." Warner's Safe Cure is the only recognized specific. R. A. Gunn, M. D., Dean, and Professor of Surgery of the United States Medical College; Editor of *Medical Tribune*; author of "Gunn's New and Improved Handbook of Hygiene and Domestic Medicine," says: "I am willing to acknowledge and commend thus frankly the value of Warner's Safe Cure."

## The Cincinnati Corrugating Co.

### The Canton Cabinet Filing Case Company, Canton, Ohio,

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture



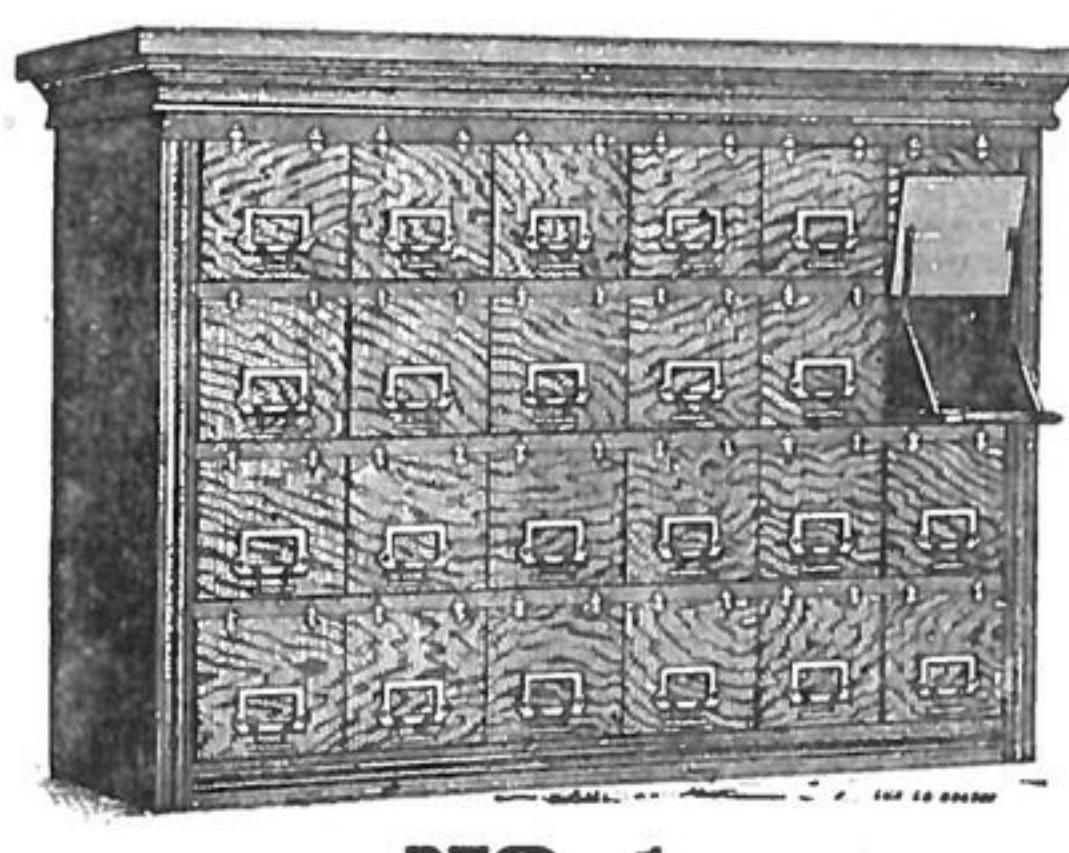
NO. 8.

**NO. 8** Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 30 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

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*Our Cabinet Files are conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.*

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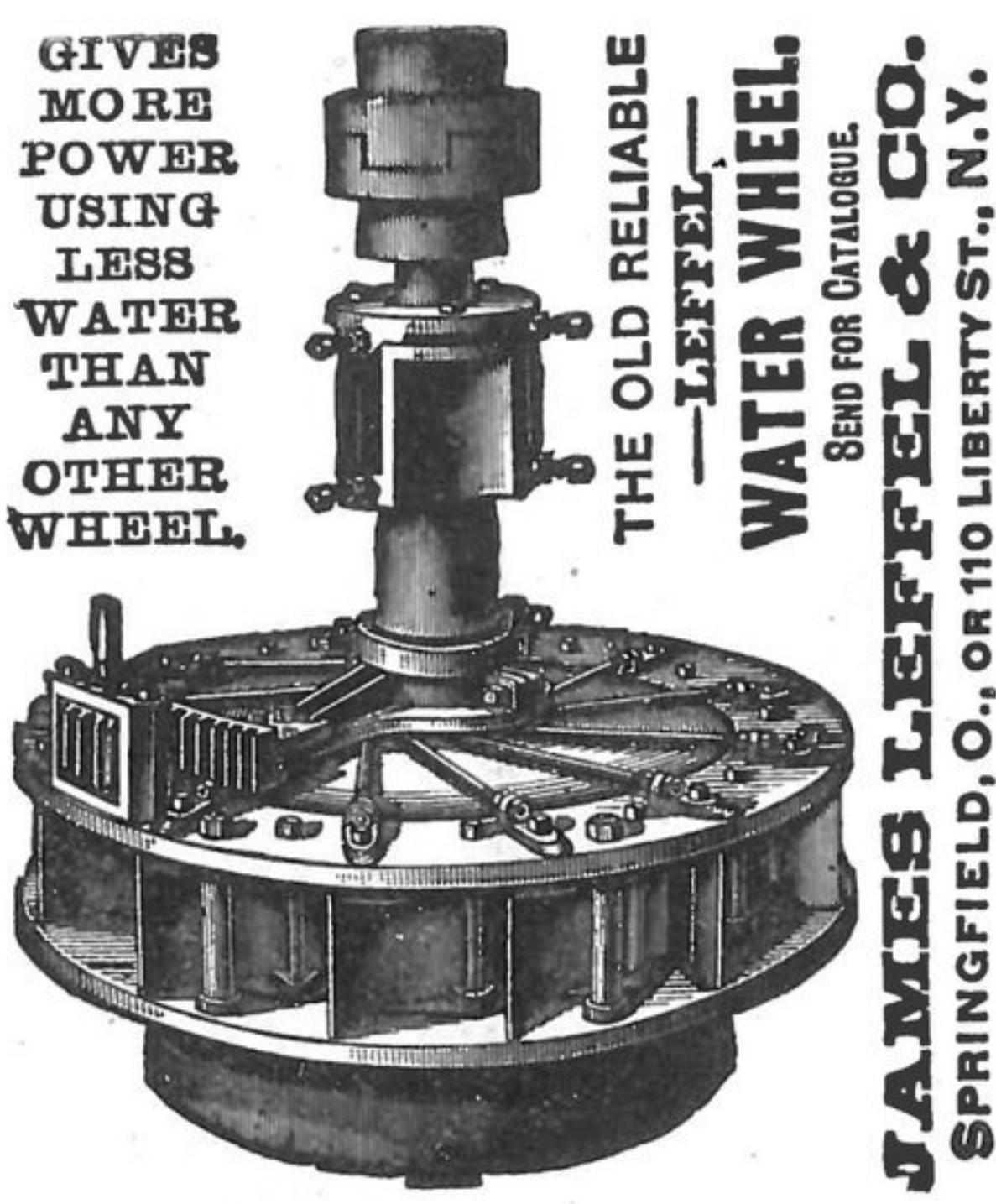
\$5,000 for Death.  
\$5,000 Loss of Limbs.  
\$2,500 Loss of Limb.  
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\$1,250 Total Disability.  
\$650 Loss of One Eye.  
\$25 Weekly Indemnity for  
26 Weeks.  
One Set of Individual Registry Plates  
Included.

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Membership Fee, 5.00. \$11.00

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C. S. SOMERVILLE, Sec'y.

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For Marine and Stationary Engines, Steam Pumps, Electrical and other Machinery.

MAXIMUM ECONOMY IN OIL.  
MARKED ECONOMY IN FUEL.

Not dependent upon or operated by Steam Pressure, Condensation or Gravity. Not affected by changes of temperature.

BEING operated by some moving portion of the engine or machine to be lubricated, the "Harlow Lubricator" starts and stops with the engine or machine being lubricated, without requiring the slightest attention from the engineer or operator, always delivering the oil in any amount from a drop to a constant stream.

The cup can be filled at any moment while the engine or machine being lubricated is in operation, without causing any leakage either of oil or steam.

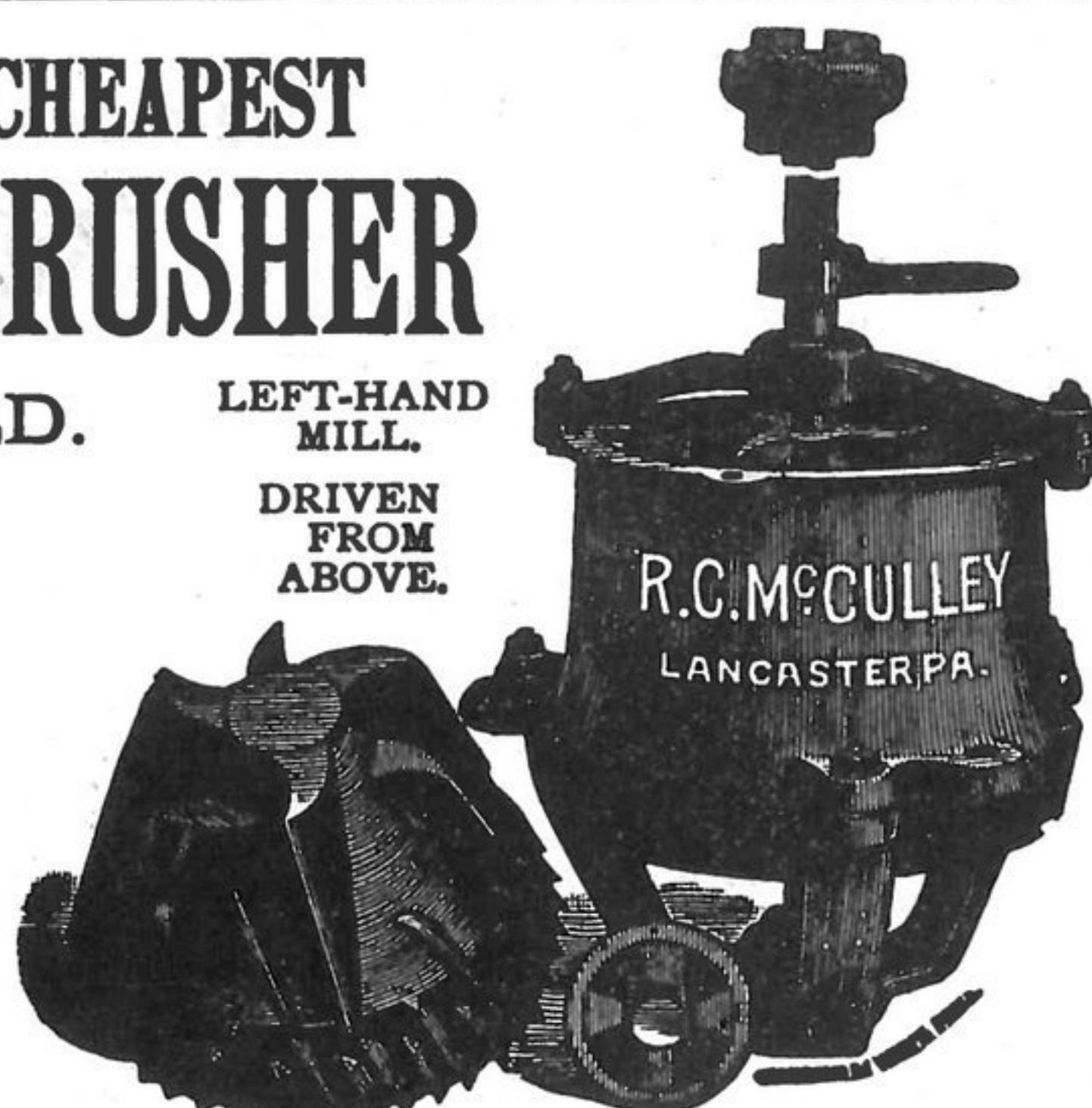
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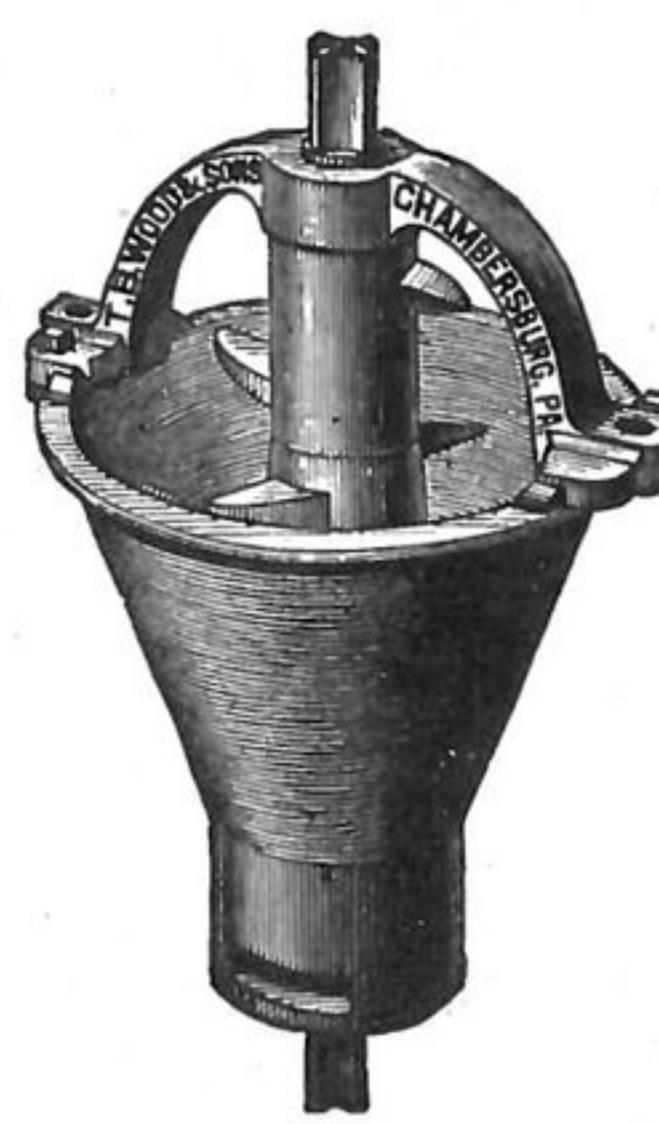


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**\$15** Will Buy the Best and Cheapest  
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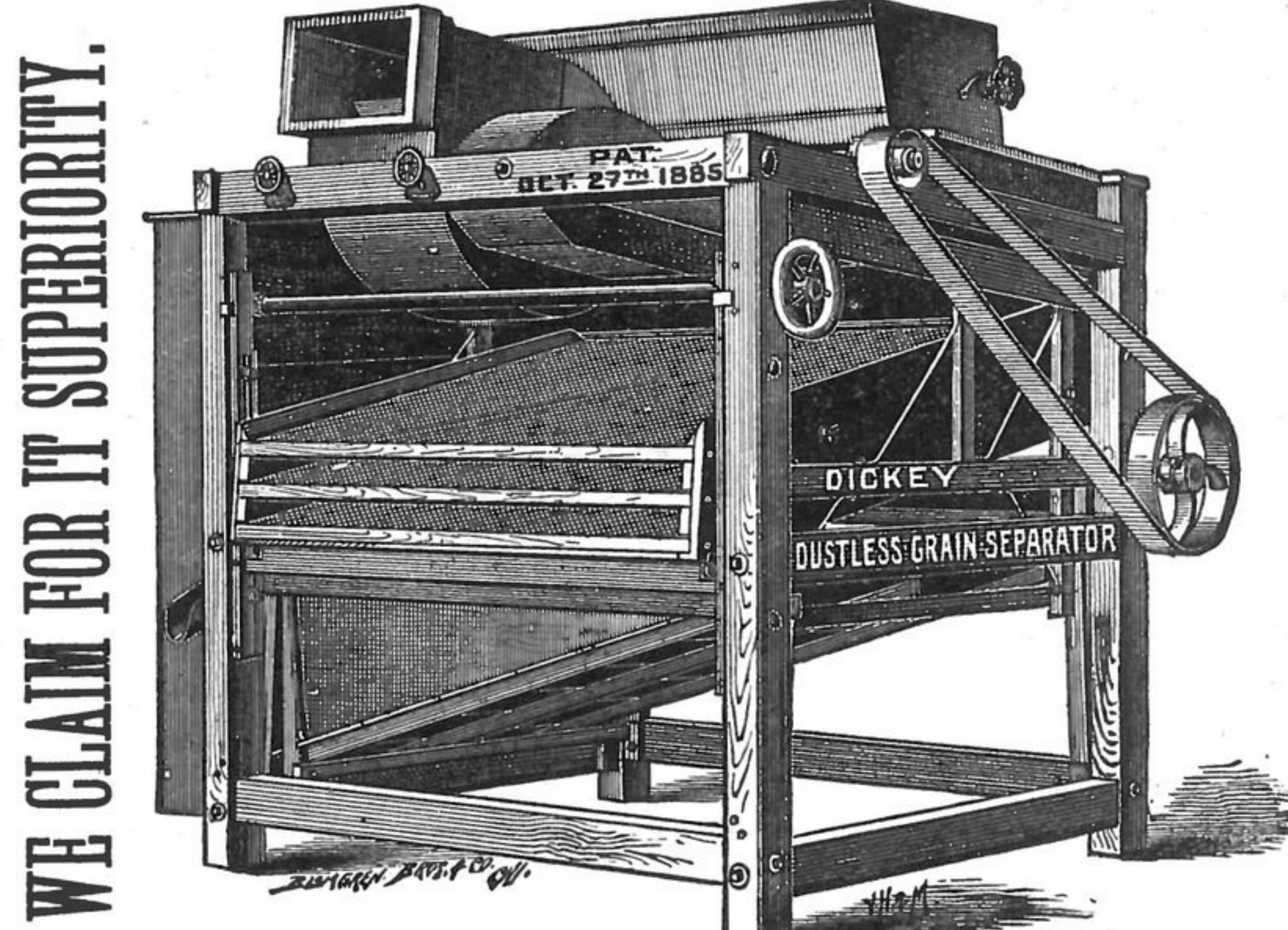


It can be driven either from above or below. Thousands of these Crushers are now in use throughout the United States and Canada, and are giving entire satisfaction. Send for circular, giving testimonials from millers who are using our Crusher, and know a good thing when they see it.

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# DICKEY DUSTLESS GRAIN AND FLAX SEPARATOR

This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is a Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.



WE CLAIM FOR IT SUPERIORITY.

WE CLAIM FOR IT SUPERIORITY.

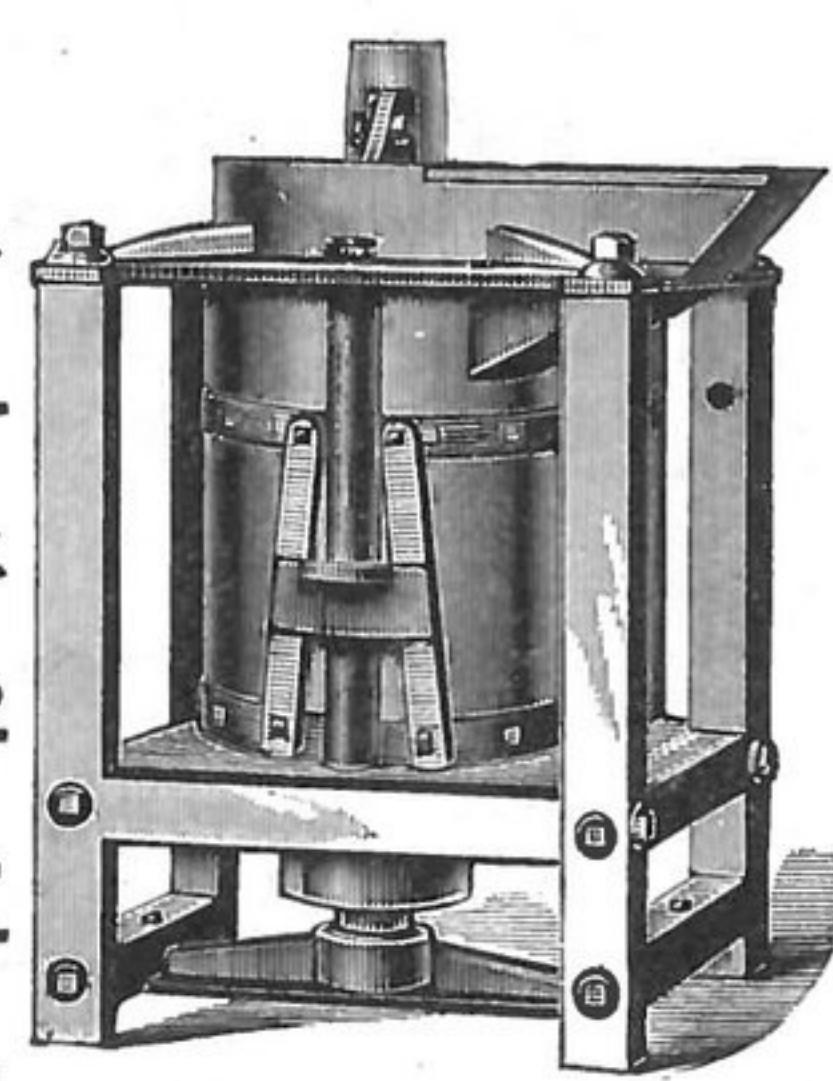
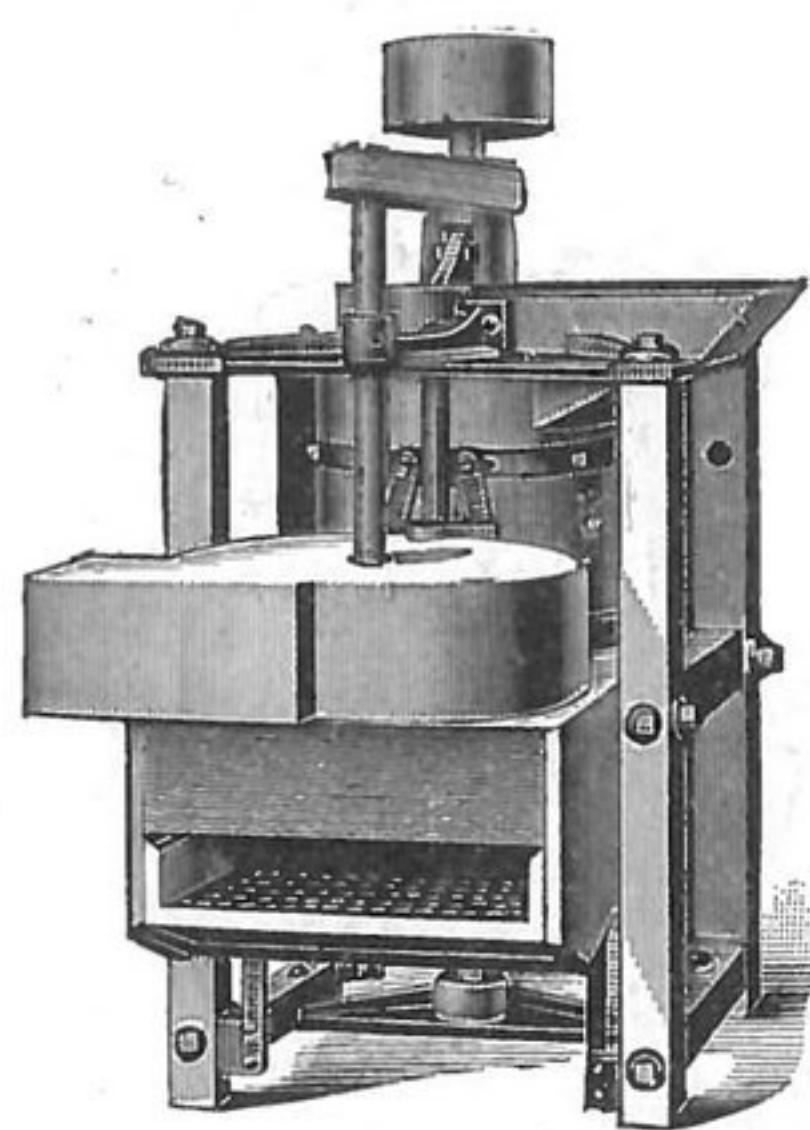
We claim for it Superiority over everything of the kind made, in simplicess, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

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# The LIPPOLD DUSTLESS CORN SHELLER & CLEANER

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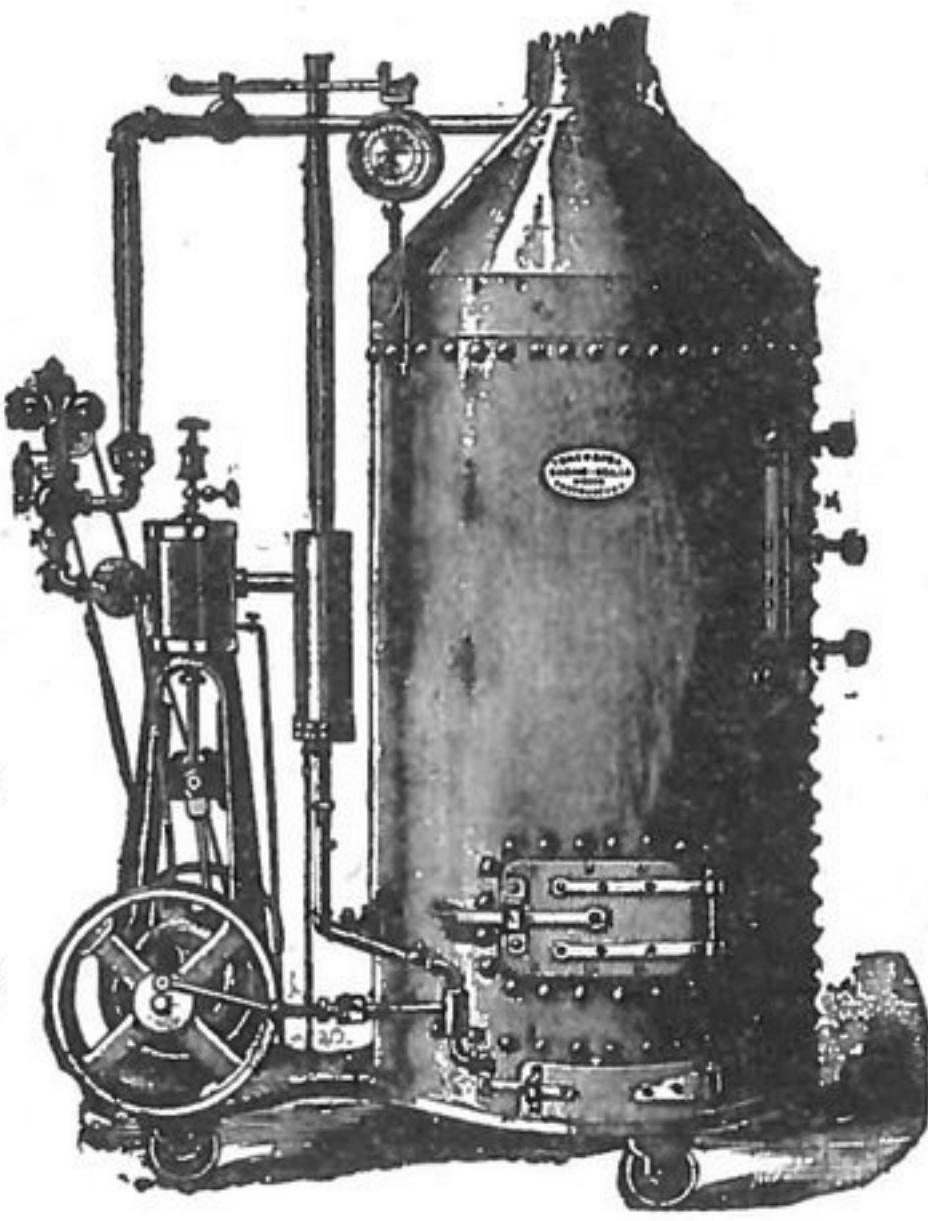
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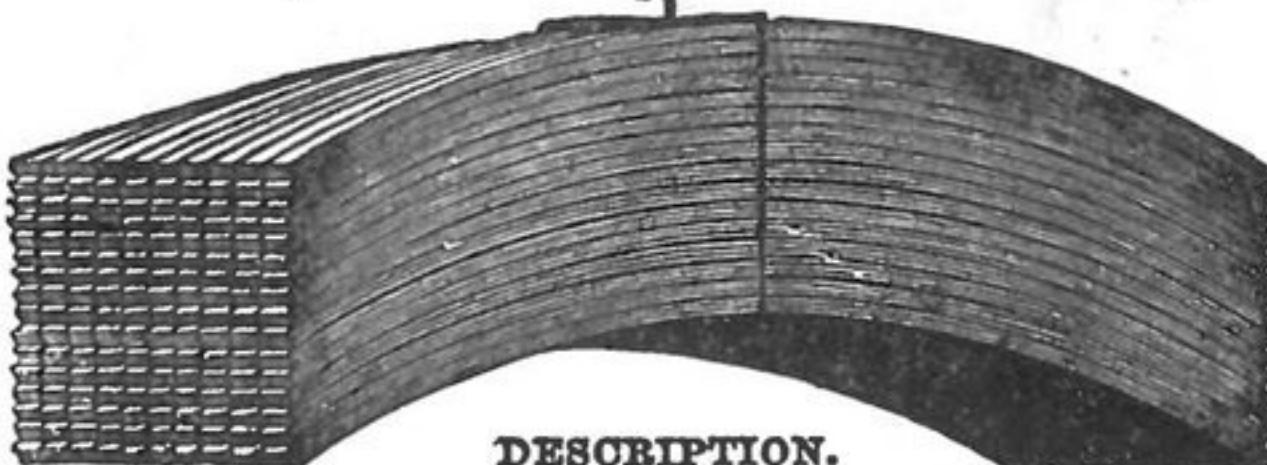
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If you use them once you will have NO OTHER. No need of pounding fingers, as the ends do not have to be held down while nailing. They are much more convenient to nail and look better than any other. They are first tied in bundles of two hundred, and, when dry, are put into bales, weighing about fifty pounds each, and tied with two strong wires, to make them handle better and to prevent loosing out in transit.

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To convince you of their merit, and for the purpose of introducing them, I will ship a sample order of from five to ten thousand at a REDUCED RATE.

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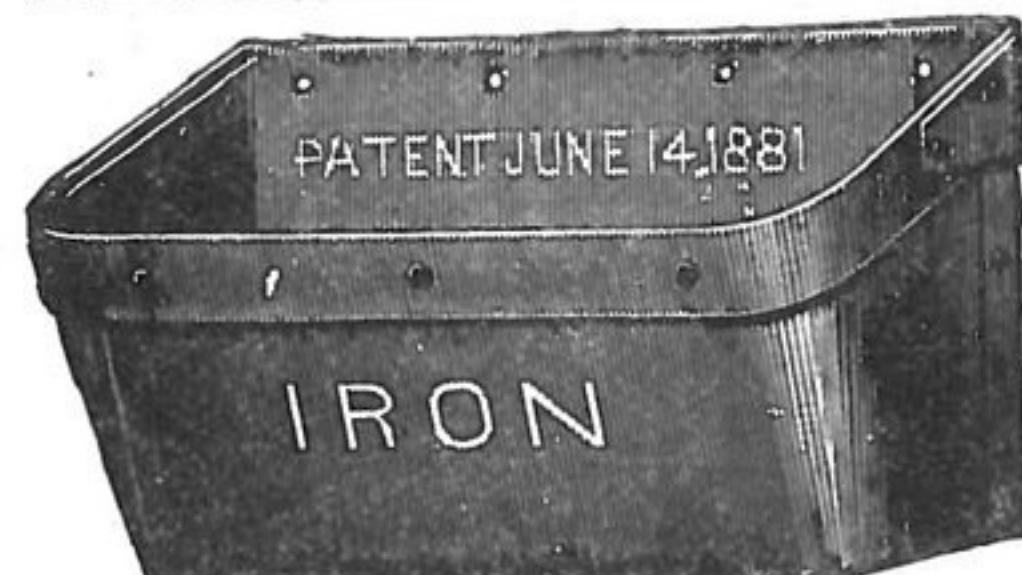
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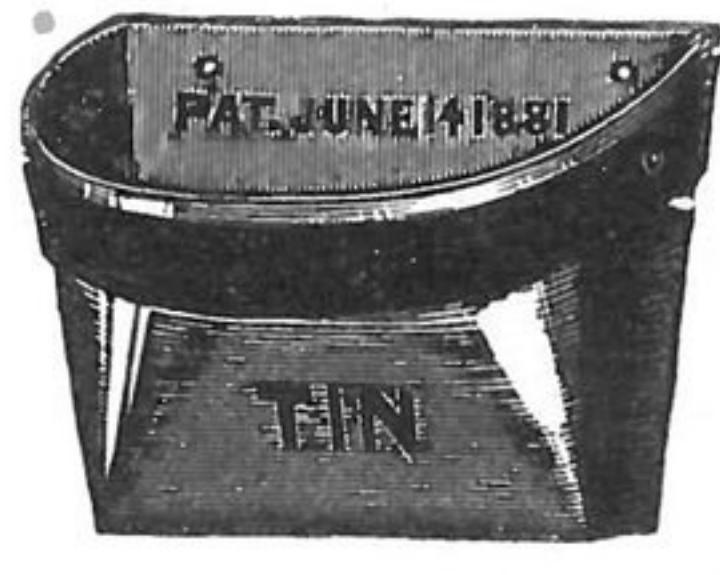
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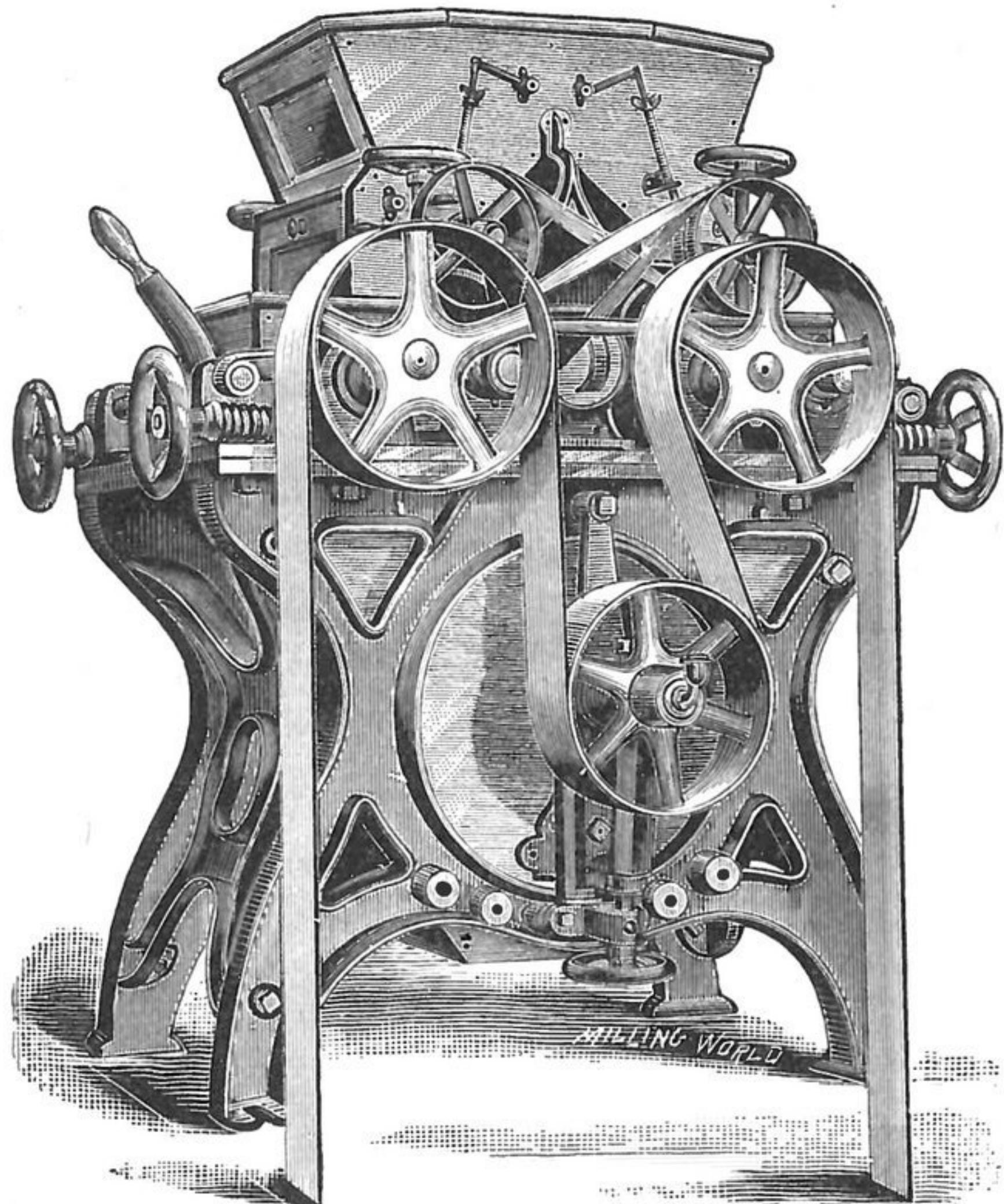


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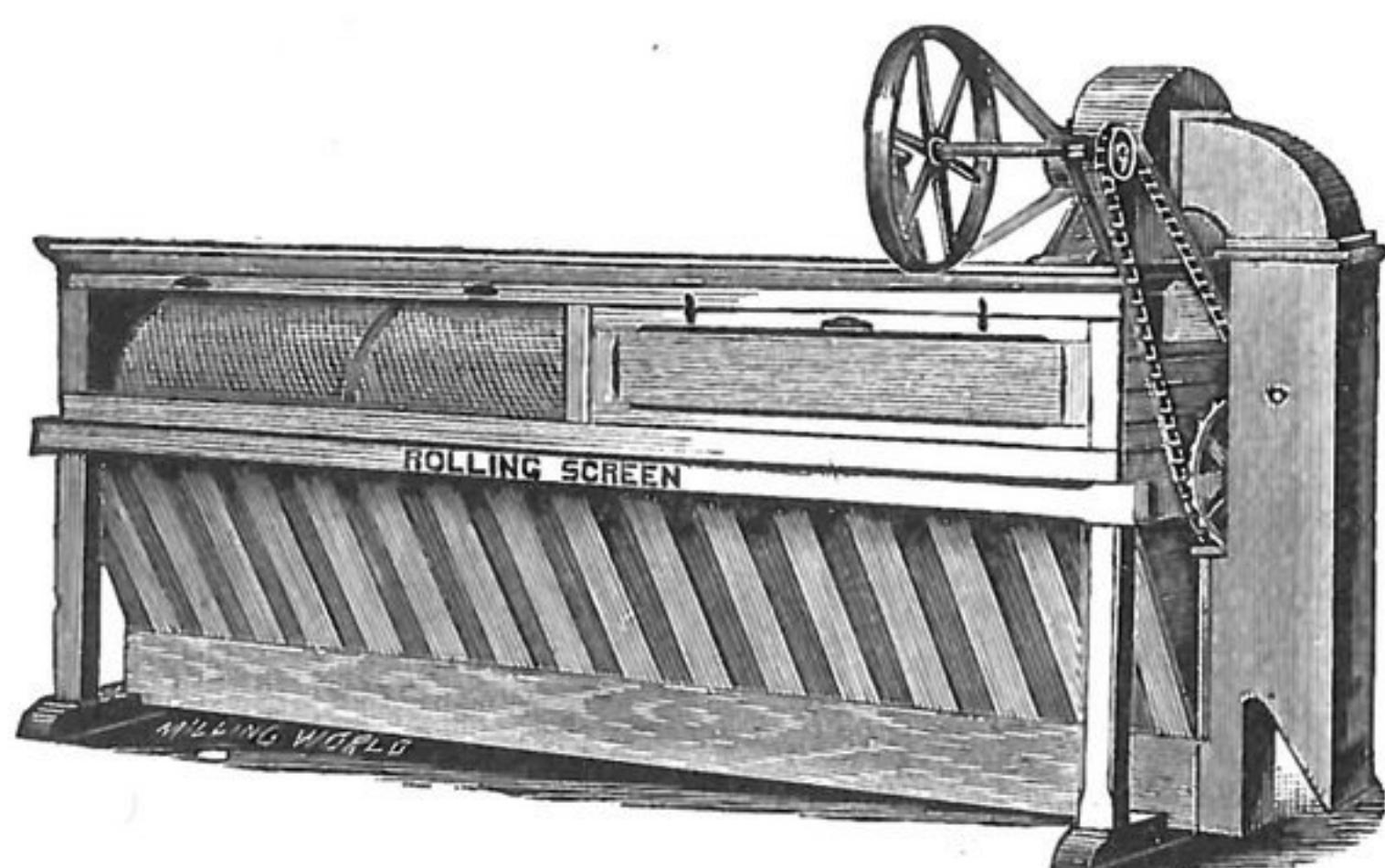
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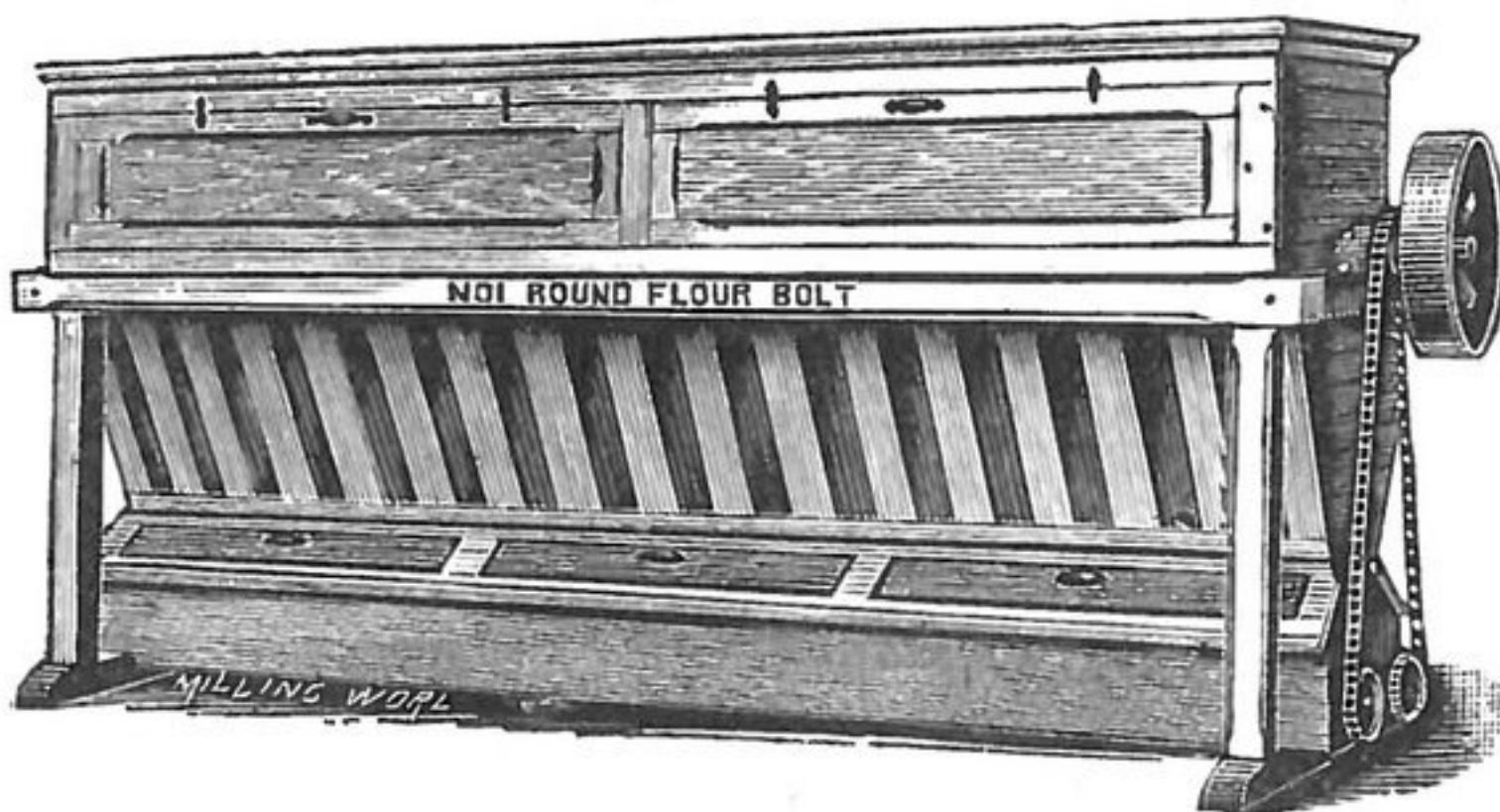
6x15 "

6x20 "

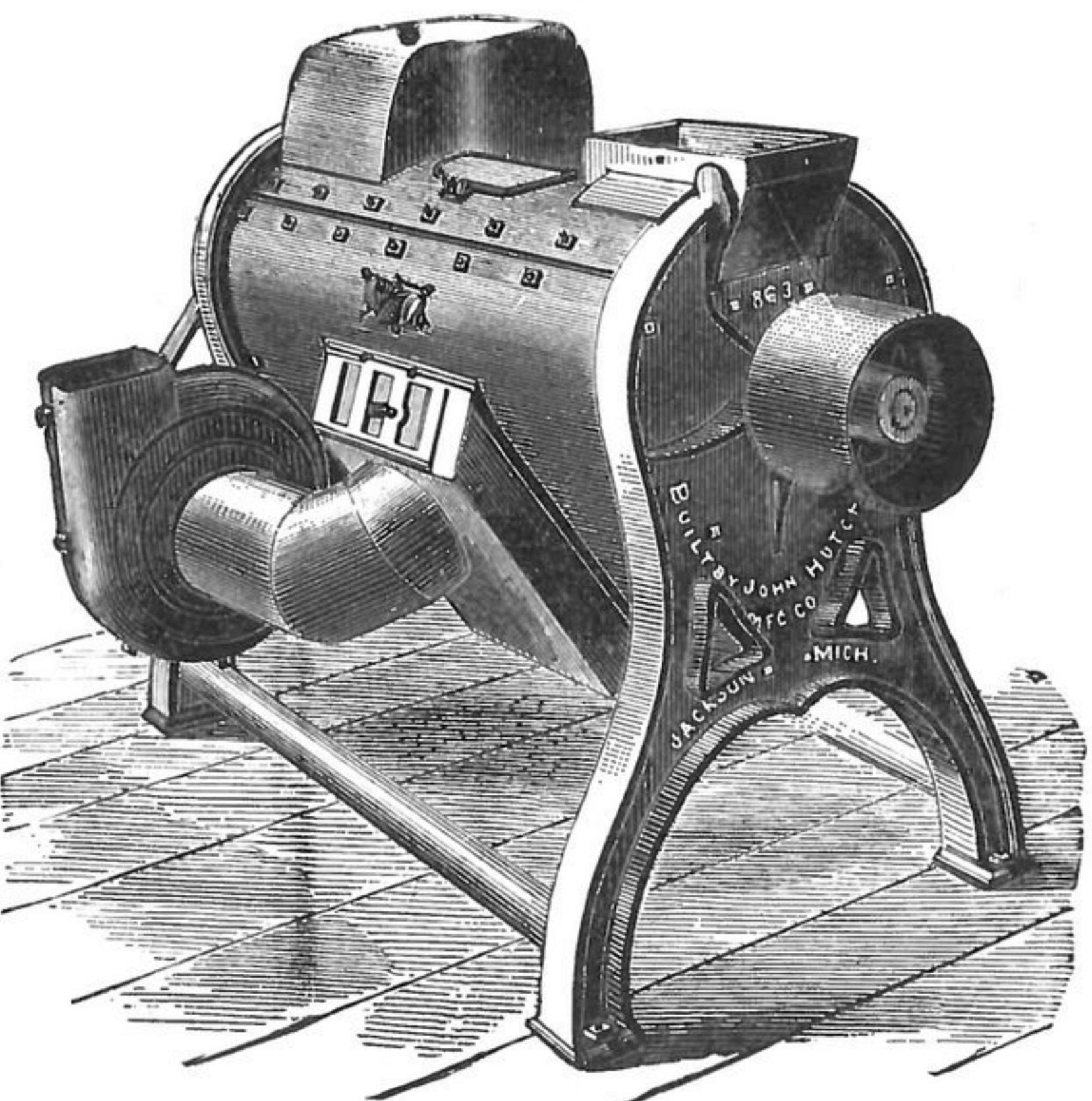


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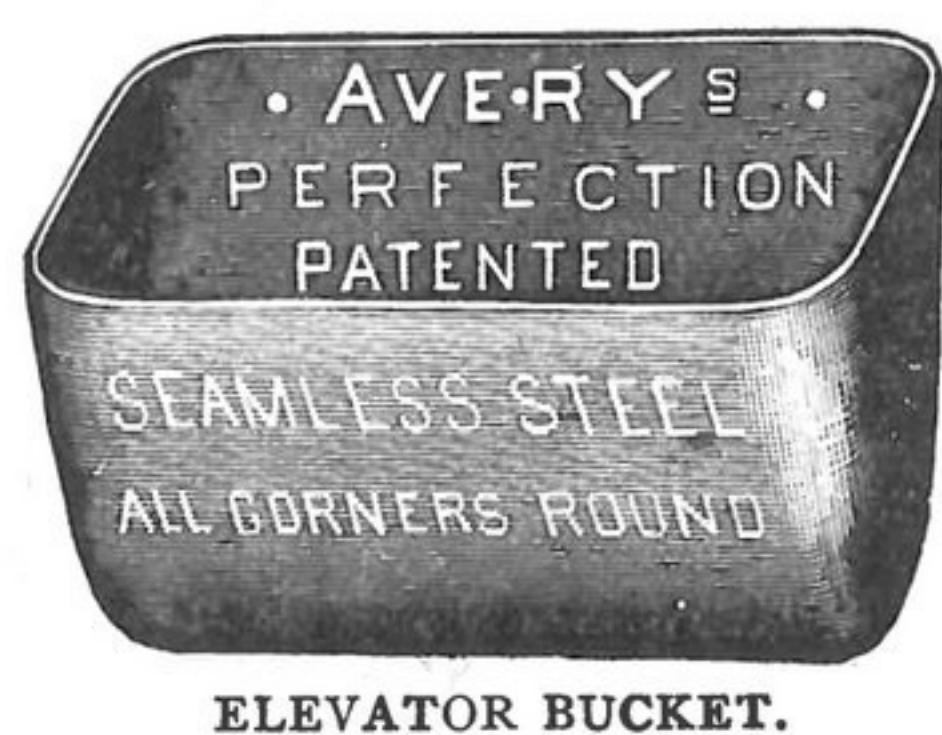
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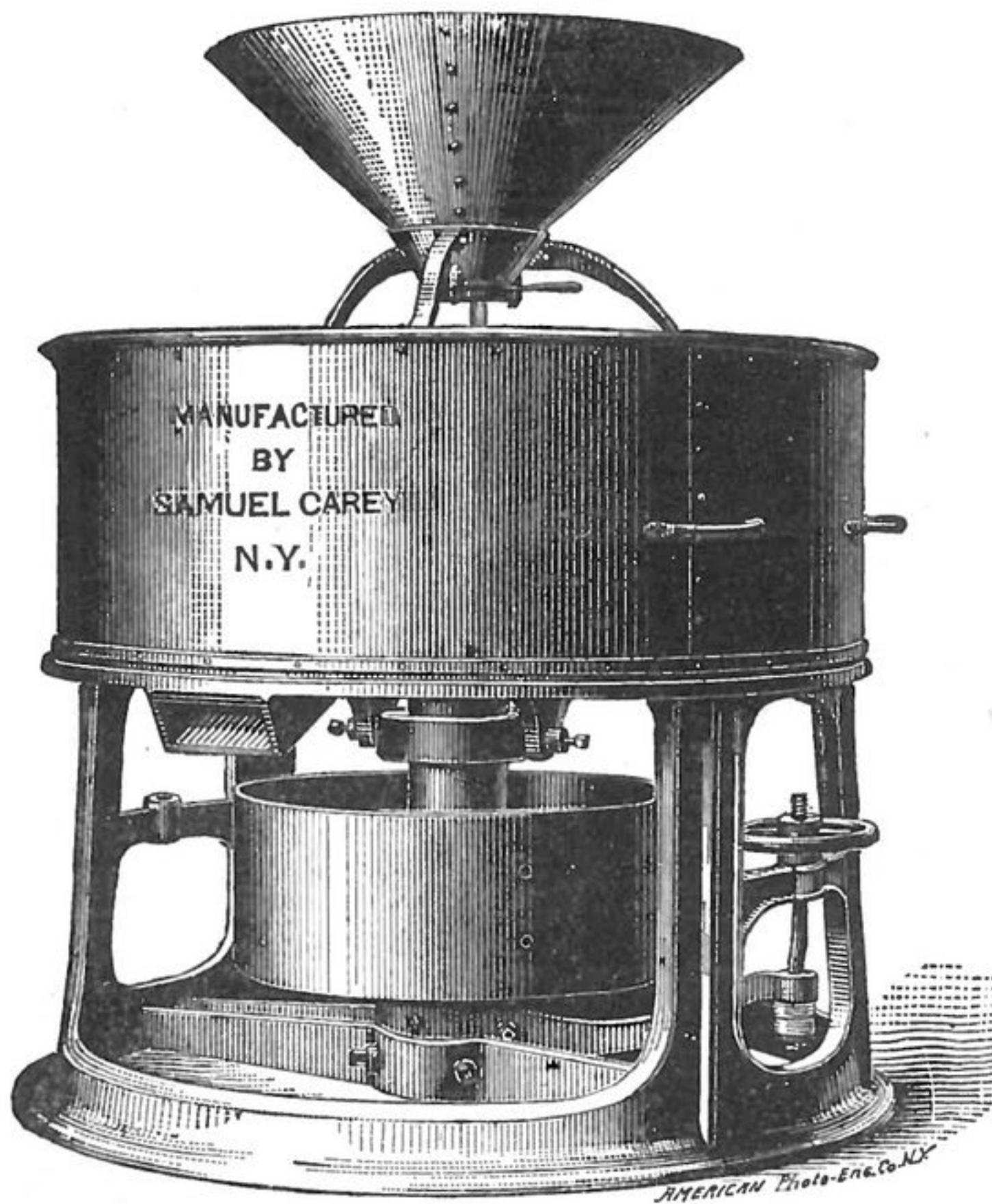
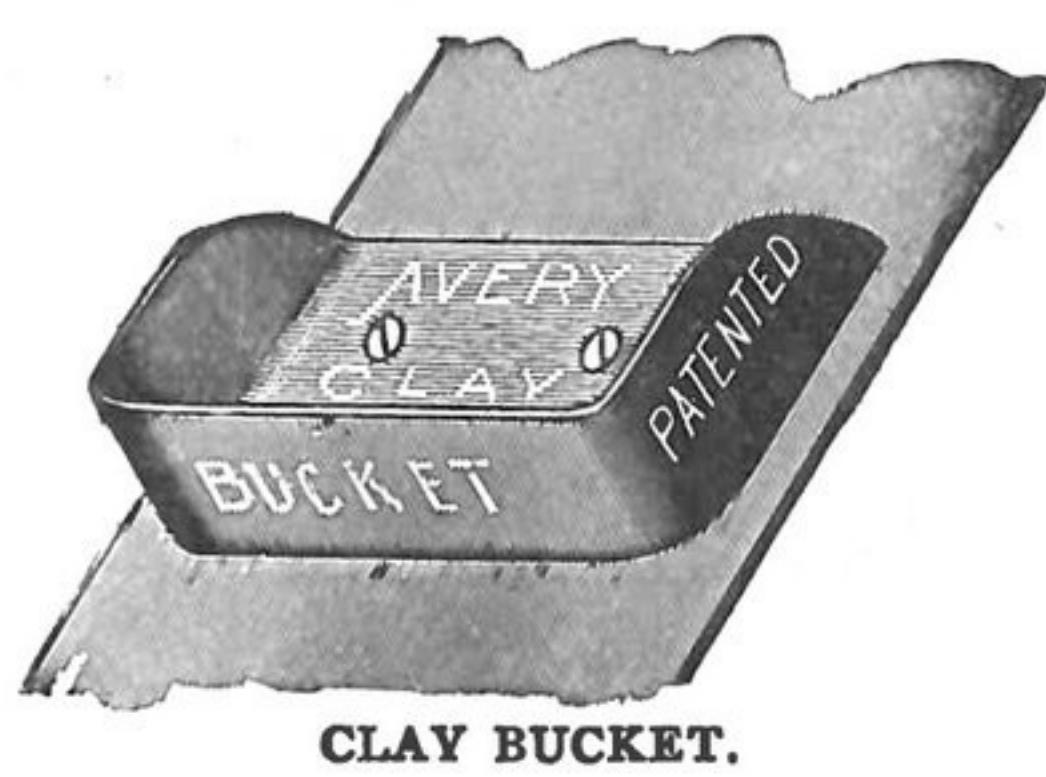


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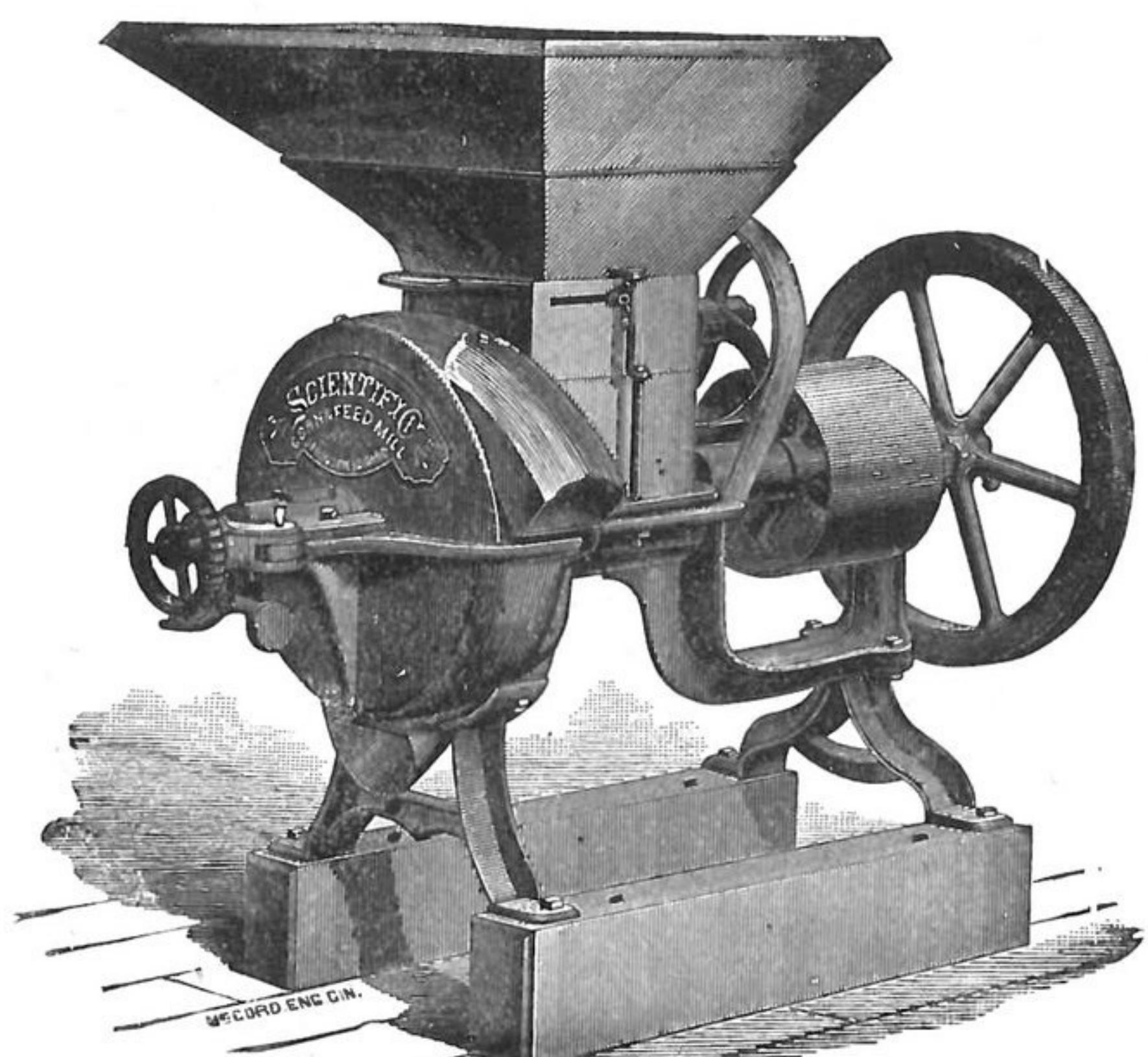
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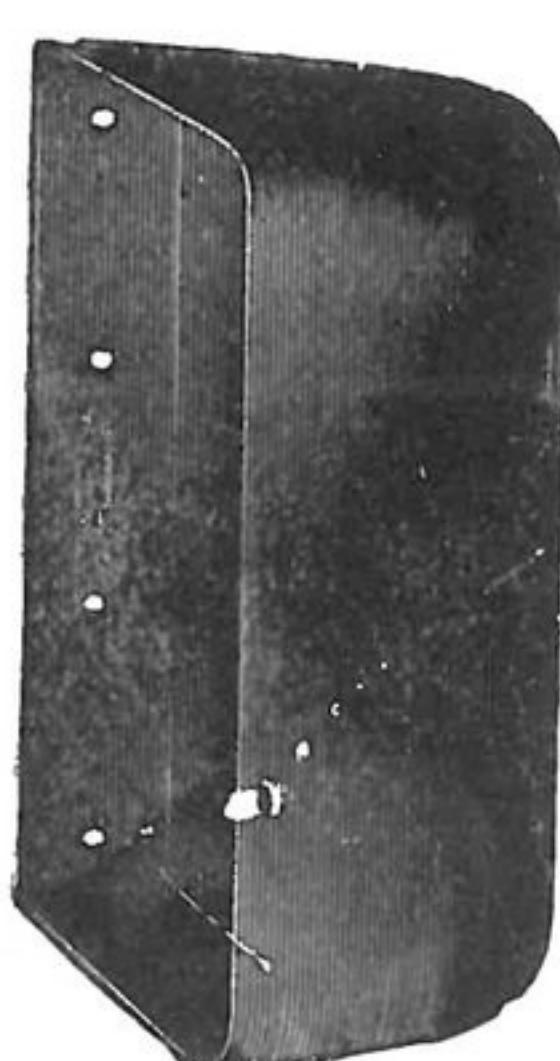
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